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The best value Commodore magazine in the Universe!

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MARCH 1987

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NEXT MONTH

More 64 Power... More on the AMIGA... More 64 and C16 games... More useful programs and much, much more... Order your copy now!

CCI View

Dear Reader,

This issue of CCI is carrying on our look at '64 Power' with an exclusive report on new GEOS products and other 64 coverage. The 64 is still the most used computer in the world and major releases continue on both sides of the Atlantic. In places like South America, 64s are being sold in quantity for the first time!

We have not forgotten the other Commodore machines with the C16/Plus 4 machines represented by an unending flow of new games including Bounder, C16 Chess and the well-known Artwork Strip Poker appearing at last on the Plus/4.

The 128, which we hear has now sold its 1,000,000th machine, has several new products including CADPACK and the interesting Canadian 'Pocket' range.

We are taking a look at a selection of flight style games. They seem to be growing faster in popularity than any other kind both in simulation and arcade-style games.

We are also including some 'Special Reports' of state of the art computer-related developments.

We have, as promised, also substantially increased the number of programs for those who have written to me asking for that section continue to grow with the rest of the magazine.

We know that many regular readers look to CCI as a way of keeping informed on not just one area but *all* their Commodore interests. We hope that you will find this CCI helps you do that, too.

Yours sincerely, **Antony H. Jacobson, Publisher**

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..news...news...news...news

3rd Enhanced 64 Drawing Board

Culton has announced Fill Routines and Fill Pattern enhancements for its 64 design package.

The FILL ROUTINE allows hatching, shading, griddling and tiling of selected areas of a drawing. The routine takes under 1 second to fill a 320 by 200 pixel area.

The FILL-PATTERN is preselected from a suite of over 30 held in memory at one time.

Sets of patterns can be created in sizes from 8 to 1 pixel up to 40 by 24, or any similar sized area can be "cut" from an existing drawing and used as the fill-pattern, in two or three keystrokes.

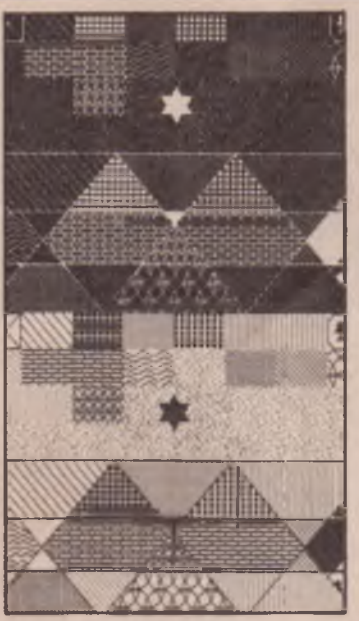
Incorporated in the routine is an AREA MEASURING FACILITY which counts the number of pixels in the filled area, the count then being scaled to display the area size in units chosen by the operator.

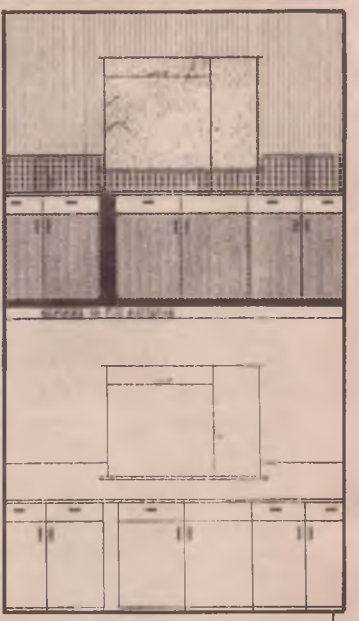
Culton recently announed other enhancements for the arc, circle, quadrant, line and tangent.

Disk: £29 (plus VAT).

128 version (cartridge): £49.

Contact: Culton Sales & Services Ltd, 34 Mount St, Dorking, Surrey RH4 3HX. Tel: (0306) 885138.





U.K. micro users help children in need

Micronet raised over £45,000 for this year's CHILDREN IN NEED APPEAL by establishing a special nationwide comunications link with the country's ITECs (Information Technology Centres).

Over 150 ITECs throughout Britain held fundraising events during the day of the appeal, and hundreds of computer clubs visited their local ITECs to make their donations on-line.

Meanwhile, based in the dressing rooms of the BBC, intrepid Micronet staff went celebrity-hunting to raise money; the concept being to bring the likes of Jimmy Saville and Pamela Stephenson into the dressing room where Micronet members could interview them via their micros. On-line auctions were run concurrently and in the excitement, Linda Lusardi donated her dress to the action, going home frockless!

Demon King Size

Transaction Point who created the Demon Spreadsheet claim that the Lotus boast of producing the world's biggest spreadsheet (CCI January) just does not stand up. T P say Lotus 123 (40ft x 80ft) is tiny by comparison to the Demon Spreadsheet that for 17,576 columns by 65,536 rows can measure 14,097ft x 1530ft.

T P also say that Demon executes a GOTP command from the top now to the bottom row about 20 seconds faster than a human being could fall the same distance. Can we expect the Marketing Director of Lotus to test out that last claim ?

Red box alarm

A new 160db warbling alarm is now available for use with the Red Box computer add-on home security system.

Red Leader is a complete microprocessor running its own Basic language and providing the program to the home micro for it to act as a terminal to the system. Once programmed, Red Leader can be disconnected from the computer and left to run on its own.

Red Leader can also recieve and react to signals from the other modules.

Red Two is a wide angle heat sensor which can detect movement. For security purposes, it will send acknowledgement of an unwanted intruder to Red Leader which can be programmed to communicate with Red Five and sound the warbling alarm for a preset time period.

A Red Box home security system comprising Red Leader, Red One, Red Two and Red Five costs £163.95 (plus £4 postage and packing); contact: Electronic Fulfilment Services Ltd., Chesterton Mill, French's Road, Cambridge CB4 3NP.

CD ROM is GO!

Hitachi is now offering a stand alone CD rom drive called the CDR 2500S. When you consider it can provide over 2.2 gigabytes of storage on a single compact disk you may consider its one-off user price of £945 as a snip. It comes with its own power supply and IBM 8 bit bus and can be daisy-chained upto 4 deep. Average access time is quoted as being 0.5 seconds with a data transfer rate of 176 kBytes per second. There is an optional card which will permit the mixture of date, music and speech.

Clough's Challenge

Brian Clough's Football Fortunes is a computer game with a difference — because it's a board game! It is an exciting departure from other computer simulation games, as it combines the speed and flexibility of a computer, with the social aspects of other best-selling board games, and was written with plenty of advice from Brian Clough himself!

Two to five players take on the role of team managers. Each manager must steer his team through the season — successfully — and use his skill to make his team stronger. Some of the opposing teams are managed by fellow players, and the rest of the ten strong league is managed by the computer. There are many opportunities to follow Brian Clough's example and strengthen your team — both by landing on the correct place on the board, and by "wheeling and dealing" with your fellow players — demanding huge sums of money to lend or transfer 'footballers'.

The game package consists of a computer cassette or disk, a playing board, five coloured counters, a pack of 'football player' cards, immunity cards — and a heap of money! The compulsory Brian Clough phrases "over the moon", and "sick as a parrot", must also be shouted at the appropriate times — but no violence please!!

Price: £14.95 (c), £17.95 (d). Further details can be obtained from: Dave Carlos, Inter-Mediates (0279/726585.

...news...news...news...news

School Computing from Quicksilva ????

Quicksilva are releasing Grange Hill — The Computer Game. It may prove to be one of the adventure releases of the year.

The game, which is based on "After Hours" — one of the Grange Hill novels, has been licenced from Phil Redmond — the man who devised the series that celebrated its tenth anniversary on February 8th 1987.

Quicksilva's game involves Hollo and Gonch trying to break into the school in order to retrieve a personal stereo that has been confiscated by one of their teachers. There are plenty of puzzles and twists in the storyline, which was devised by Colin Jones whose previous work includes Deux Ex Machina and iD.

"Sky Runner"

At last the long awaited follow-up to Cascade Games' number one hit, ACE is released and entitled, 'SKY RUNNER'.

Programmer Ian Martin, the man responsible for ACE, has been working secretly on this project for several months and is 'delighted' with the results of his work Ian commented;

"We wanted to produce a game with a very original theme. We've been under a lot of pressure from America to write ACE2 but we're holding back on that one for a while.

The idea for 'SKY RUNNER' came from a couple of my favourite movies, Dune and Return of the Jedi. The scene in Jedi where the flying motorcycles are hurtling through the trees was by far the most exciting sequence. That was the inspiration for the action scenes in Sky Runner.

The story line for the game could be considered contraversial in that it is based on drug busting on an interplanetary level. Future society is subdued into docile obedience by the drug SKY and it is your function to terminate the drug harvesting operation."

The game is out now on Commodore 64

Price: £9.95 Cassette
£12.95 Disk.

M.H.'s Throne of Fire

Melbourne House is about to release a computer game quite unlike anything it — or any other software house — has released before.

It's a multiplayer combat game for two players and a third computer opponent or one player and two computer opponents, all playing simultaneously. It's called Throne of Fire, and it's designed by the uncrowned king of strategic software, the author of the legendary Lords of Midnight and Doomdark's Revenge, Mike Singleton.

Throne of Fire enacts a classic three-sided power struggle between ruthless and ambitious princes, sons of the late King Atherik. It is played out against the dramatic back-cloth of the Burning Citadel, a towering edifice built around the rim of a smouldering volcano. Each prince aims to seize the now vacant Throne of Fire, by slaying his brothers and their men-at-arms, and then channel the mind-wrenching powers of the Throne to his own dark ends.

The action is controlled by dual joysticks, or joystick and computer, with each player adopting the persona of one of the rival princes, and the computer taking on the role of the third. All three play at once, moving the main characters and the members of the supporting forces through the many chambers and connecting stairways of the Citadel.

This is depicted with large animated knights exploring and battling it out with clashing axe and sabre, against the detailed graphics of the Citadel's interior. Below the two main action screens — one of each human player — is displayed the silhouette of the itadel, standing starkly against the darkening sky, each illuminated arrow slit showing the current deployment of the opposing armies.

Throne of Fire will be released on Commodore 64 Cassette £9.95, disk £14.95.

Big Byte Bucks

Want to be a millionaire? Get into computers! According to a recent US survey Bill Gates, 30-year-old boss of Microsoft (creator of MSDOS) is now worth more than $850 million (£270 million) and is one of the top 400 richest people in the US. Not bad for 30 years old but put in the shade by H Ross Petrot, founder of EDS, now owned by General Motors. He's worth a cool $2.5 billion (£1.9 billion). And there's David Packard of Hewlett-Packard who tots up a neat $2 billion (£1.6 billion). Now about that software idea your were inventing.

Supersoft Spearhead Commodore Revival

Since Supersoft bought Commodore's remaining stocks of these much-loved Pet Range enquiries from existing users have been flooding in. Most of the machines that came from Corby were the older 4032 and 8032 computers, whereas many users wanted to expand their systems with the sleekly-styled 8296 computers, the very last in the PET range.

Supersoft managed to locate a stock of brand-new 8296 computers in a Commodore warehouse in Europe. These are now in England, and are available from Supersoft direct at £595 plus VAT.

Supersoft are currently negotiating with a number of established suppliers of Commodore 8000 series software to make programs available at a fraction of their original

prices. An announcement will be made when negotiations are complete — in the meantime Supersoft would be interested to hear from other software suppliers with 8000 series software collecting dust on the shelves!

Contact Peter Calver 01-861 1166

Phasor One

Britannia Software of Cardiff, have produced Phasor One, a new joystick they believe will faze its competitors with a revolutionary hand-held design.

With pistol-grip shape, the Phasor One fits neatly and securely in either hand and does not need to be placed on a solid surface. The joystick is on top to allow right or left-handed players complete freedom of movement while an ultra-sensitive trigger is used to fire the 'gun', allowing extra rapid response. Retailing at £12.95, the Phasor One fits most types of home computer and comes with an extra long cable to give the player plenty of room to manoeuvre.

Cliff Gardener of Britannia Software claims, "It's just what the experienced gamester is looking for — fast, mobile, accurate and with an authentic feel to it. We are sure that this product will really take-off."

Contact: Messrs Cliff or Steve Gardener, Britannia Software Ltd, Unit M28, Cardiff Workshops, Lewis Road, Cardiff, CF1 5ED. Tel: 0222 481135.

Yugoslav Computer Hero

Serbo-Croat does not seem a likely language for a champion of computing but there is a contender for the title of Mr Computing Yugoslavia who may have few equals anywhere. Andrija Kolundzic, 27, is a student at Belgrade University and also a teacher of computing. He is also author, radio and TV presenter, programmer and organiser of computer clubs and creator of audio cassettes.

Kolundzic runs Yugoslavia's biggest personnel computer club with over 4,000 members and also teachers courses in Basic and Machine language for Commodore computers. He conducts similar courses by radio and on TV every three days' and puts the courses on audio cassettes. He wrote the first book of Basic for the Spectrum and the Commodore 64 in Serbo-Croat (the national language of Yugoslavia). He is at present engaged in writing more books on Basic, machine Language, Modem and Mailbox services for Commodore computers. He writes for the three main popular Yugoslavian computer magazines 'My Micro', 'Yu Video' and 'World of Computers' in which he is editor of the 64 columns.

He is also a professor at the College of Pedagogics in Belgrade where he runs 30 C64's. Kolundzic owns a 64, 128, Spectrum, 2 1541 disk drives, four printers and over 3,000 'serious' programs for 64/128. He runs two modems... and he is involved in Ham radio. Whew!

He's about to start the first private mailbox service in Yugoslavia and is keen to contact other bulletin boards (and other enthusiast) outside his country with a view to exchanging ideas, programs and membership. He tells us there are 200,000 home computers in Yugoslavia so there are lots of opportunities for mutual advantage for hobbyists in other countries.

Andrija Kolundzic seems an enthusiast who is doing a great job bringing computing to a wider public with very few resources. What about contacting him international Commodore fans and giving him some help?

Contact: Andrija Kolundzic, Vojvode Brane 31, 11000 Belgrade, Yugoslavia.

Portal: A Computer Novel

Activision today announced the long awaited release of Portal: A Computer Novel, with the promise that the Portal experience heralds a new era of computer literature.

Portal takes the player to the year 2106. Having returned from an aborted 100-year voyage only to find a peaceful but people-less world, the player delves into Worldnet databases to scan the records of the vanished civilizations. Slowly, the thread of the story begins to unravel as the game's interaction revives the sole survivor of the lost world: a biological computer called Homer.

Different from any computer software in existence, "This work is the first true piece of computer literature in which the player is in large part the author", explained Rod Cousens, Group Managing Director of Activision UK Limited.

Unlike books or films that have been translated to the computer medium, Portal was created specifically as computer literature. And unlike puzzle-solving text adventures, the player directs his own research and controls the experience in a truly innovative way. Portal was created and produced by Brad Fregger, teamed with Rob Swigart, a well-respected author of adventure and science fiction.

Portal's massive database requires that it be multi-disk on all systems. The premier release scheduled for February will be a 3 disk product for Commodore 64/128 computers, price £24.99.

Datel Diskmate

Datel have brought out DISKMATE II, a multi feature cartridge for the Commodore C64/1541 disc user. The unit provides: FAST LOAD/SAVE . . . speeds up the save/load operation by up to 5 times. FAST FORMATTER . . . formats a diskette in under 10 seconds. FAST LOADER . . . fast load programs at 5 to 6 times normal disc speed and works with most software. DOS WEDGE . . . gives single key commands for directory, load, scratch etc., etc. MICRO MON . . . a powerful monitor/disassembler enable you to view any area of memory as HEX, ASCII or full disassembly. All the features of other monitors plus many more . . . too many to list. RESET BUTTON . . . DISKMATE II incorporates special switching techniques which make it invisible to the system. The monitor can look anywhere including at the RAM under itself.

DISKMATE II is an easy to use auto start cartridge and is fully menu driven.

DISKMATE II and ACTION REPLAY MK2 are available on the same cartridge for only £34.99.

Contact: Datel Electronics, Units 8/9, Fenton Industrial Estate, Dewsbury Rd, Fenton, Stoke on Trent. Tel: 0782 273815.

Announcing Shanghai....

Now Activision introduces SHANGHAI an exciting strategy challenge devised from the ancient oriental game of Mah Jongg, a captivating and addicting puzzle that brings the best of the ancient pastime to the home computer audience.

Over twenty-five centuries ago, the exotic ports of China added yet another export to their trade in silks and spices: one of the most compelling games ever created — Mah Jongg.

Devised by sailors to pass the time and risk their wages, it became the obsession of warriors, scoundrels and kings.

Taken to America during this century, it lured unsuspecting thousands to become addicted to the click of the ivory tiles, and was even banned in Philadelphia!

SHANGHAI is 144 picture tiles stacked in a five level, dragon-shaped pyramid. Players must search for matching tiles that are often hemmed in out of reach, and must be approached through maddening and roundabout matching maneouvers.

Small wonder that once computer owners get started, they don't want to stop. And, thanks to SHANGHAI's billions of different gameboards and four different game options — Solitaire, Team Effort, Tournament or Challenge — they don't have to.

Price: £9.99(c)

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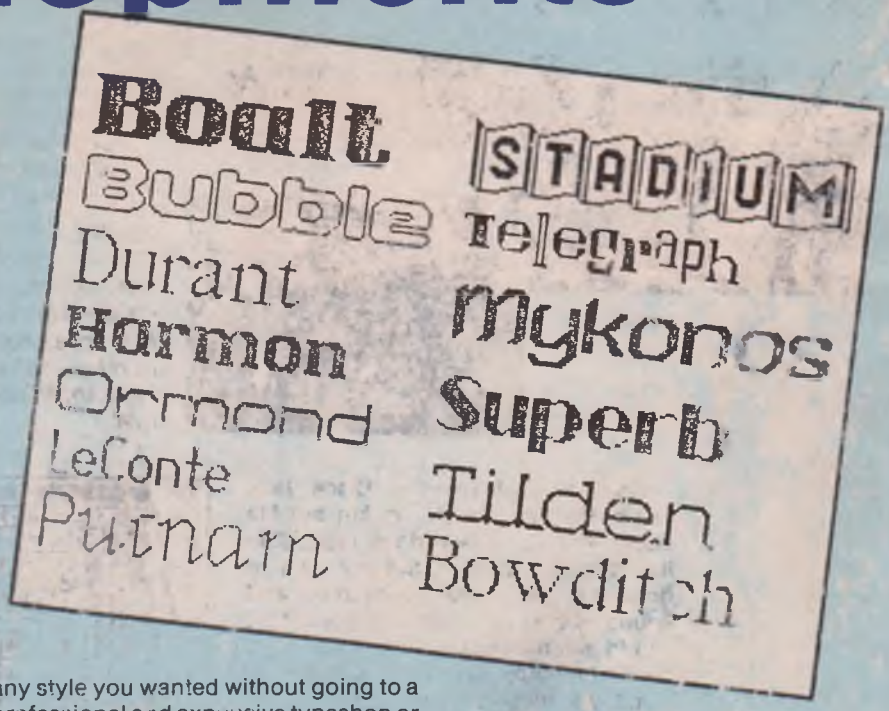
More 64 Power – New Geos Developments

The 1987 Consumer Electronics Show in Las Vegas was not rich in novelties to interest computer users. There were a number of new AMIGA products but the major Commodore 64 development was new releases in the GEOS range. Berkeley Software claim that GEOS is a whole 'universe'. That may be going a little far but certainly GEOS — which CCI was the first to review in mid-1986 — is the product that has not only probably the greatest potential for applications but has almost certainly lengthened the life of the 8 bit C64/128 range, in the face of its long predicted elimination by the AMIGA-style high flying 16 bit machines.

GEOS — as most Commodore owners will know now-stands for Graphic Environment Operating System. This is a professional style package that has virtually all the features that can be found on similar operating systems built into 16 bit machines like the AMIGA or Atari ST.

GEOS is a 'window and graphic icon' based system with dialog, error and system request boxes. It is extremely easy to use and finding a growing number of users throughout the world even though it is not supplied on cassette. GEOS was originally published with two powerful software packages, GeosWrite and GeosPaint. Now Berkley Software has brought out the next two packages in the system -- FONTPACK 1 and DESKPACK 1.

GEOS originally came with a range of 5 fonts (typefaces) but the new product FONTPACK introduces 20 more. They are an interesting and even witty range. It is like having a book of Letraset on your computer available to use for any suitable occasion. The typestyles certainly look highly professional both in their appearance and the way they can be used. We particularly liked STADIUM for titling and HARMON too is very attractive. A short while ago you would have had to pay £3 or more a sheet for typefaces like these for headlines or titles and, of course, you could not have produced whole pages of text typeset in any style you wanted without going to a professional and expensive typeshop or printing company.



FONTPACK is charming.
Boult is all business.
FontMaster is financial. And Telegraph is .. hmmm, well, you get the point.

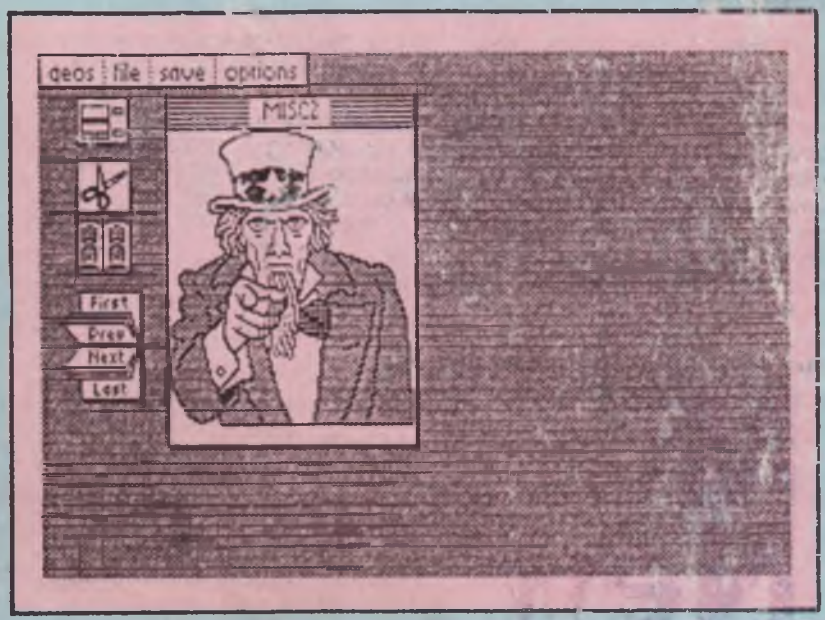
FONTPACK 1 is an excellent package for anyone who has a use for printing out professional style material and, of course, a 64 or 128 to run it on.

Add a laser printer, whose price is falling down to the £100 mark, and you've got what amounts to a real typesetting operation. Amazing!

DESKPACK 1 offers, in one package (disk only, of course) four applications for use with GEOS. All run on 64, 64C and 128 computers. There is a calendar -- an application that everyone seems to include if they can't think of anything else. Personally I find it easier to use a real calendar stuck on the wall — particularly if there is an attractive picture to go with it.. The only slightly special thing about the DESKPACK 1 calendar is that it goes on till the year 9999. I don't expect many of us will be around to check to see if it's accurate till then.

Rather more useful is ICON Editor which gives you the chance to create your own icons and easily identify and run your GEOS files. Interesting but not vital.

Much more practical is the Graphics Grabber. This lets you copy graphics from the increasing number of products like Printshop, Printmaster, Newsroom and so on that give you a library of images to use at will. You can incorporate them into work you are producing on GeosWrite and GeosPaint. This is a very useful idea, for with all the excellent graphics now available, it is often a total waste of time trying to create simple things like maps, universally recognised designs or already created complex images. Of course, once you have incorporated them you can change or modify them to suit your own purposes.

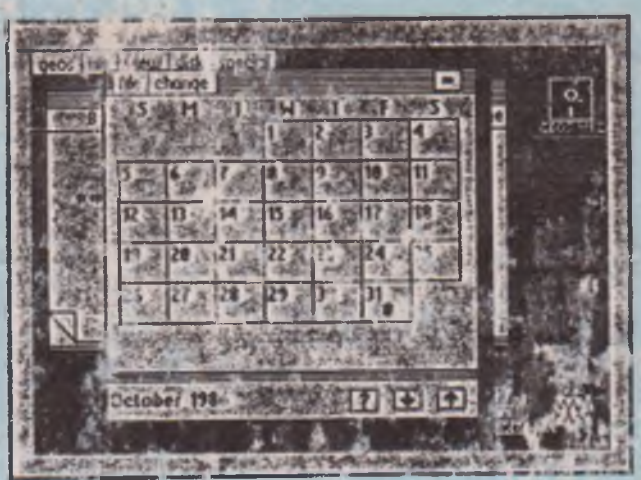


stop there. It has to go on at the same level of technical or practical creativity. The FONTPACK certainly does continue this very high quality of usefulness of GEOS however, I'm not sure that DESKPACK does it the same justice. Perhaps I'm asking too much but it is GEOS that is setting the standard. Nevertheless, I'm sure we're going to see many more brilliant ideas in the GEOS range from the Berkley Softworks stable giving much more 64 power yet.

FONTPACK 1 $29.95
DESKPACK 1 $34.95
(UK prices not available yet.)
Berkley Softworks (UK Distribution-First Analytical).
A.M.

The last application — Blackjack (a.k.a. Pontoon) might be fun but jits oddly with the more serious 'productivity' style products in the package. It does have quite agreeable graphics and sound effects but it's not something I would buy the package for. It seems to me that it could have been possible for Berkley Softworks to have come up with an application a little more relevant to 'productivity' or am I being too down to earth and is a card game the right kind of relaxation after the serious stuff?

These new GEOS packages suggest two things: first, that the GEOS range is going to extend considerably the scope of applications that can be handled by 64's or 128's to a very high level of professional skills — machines (not just computers) that could carry out work of this standard would have cost many thousands of pounds or dollars just a couple of years ago. Second, the sheer brilliance of a product like GEOS cannot



DESIGNER BOARD

The Designer Board is yet another of the plethora of drawing packages now available for the Commodore 64. This particular program comes from Zanin Electronics, who share the same address as Precision Software. Zanin are probably better known for their range of Arabic language wordprocessors.

The Designer Board comes as cartridge, disk, joycard, and manual. Zanin have not bothered to protect the disk, since the cartridge acts as a double, and the software will not run without it plugged in. Unfortunately the cartridge casing didn't fit together very well, and I actually had to remove the card from its plastic case before it would fit in the cartridge port of my 128D. This was no problem, since the cartridge was only a press fit.

The options menu presents a series of some sixty icons, and fills the lower third of the screen. With the menu present, the cursor highlights the current option, which can be selected by moving the joystick and pressing fire. It is best to keep the manual with you at this point, since not all the icons are obvious in their function, nor is it always obvious what to do once an icon has been selected. The manual is reasonably helpful here, since each icon is listed by function, with a picture and also the coordinates of the icon in the menu.

Anybody who has used a mouse for drawing on an Amiga will know how much better the mouse is as an input device than the joystick. According to the manual, a version of Designer Board exists to support both mouse and graphpad, but my version did not. The joycard supplied with the program had a nicer feel to it than many joysticks, and most operations could be performed with a twitch of the fingers.

Selecting PRINT from the main menu takes you into the printer menu. Here you have to type in the name of your printer. The basic choice is between the MPS-801, EPSON and Canon PJ 1080A colour inkjet. The printer driver is then loaded from disk, and printing begins. I couldn't get it to print out on my Epson, either through the user port or with a serial bus interface, but it seemed to work ok on the 801, although rather slowly. It is a little unfortunate that the printer driver needs to be loaded every time the print option is selected, since it wouldn't be much bother to check and see if it was already loaded.

Conclusions? The designer board is quite a reasonable graphics package, and you can design some fairly elaborate high resolution pictures. There is even a shape library for designing electronic circuits, although I wouldn't mistake this for a C.A.D. package. It is possible to crash the program with some menu options, and the overall impression is that it still needs a little more polish. It comes with the input device (joycard) included, and the disk is not heavily protected. For this reason alone it deserves to do well. Lets hope that other software houses follow Zanin's lead.

T.W.A.

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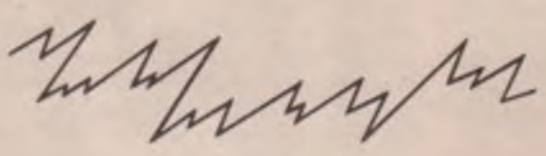

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Feature

SEX and the Single Computer II

Sex has reared its, for some people, shocking head in the ostensibly innocent world of computers. In California in the US, the FBI and the income tax service have been investigating the use of IBM PC's to run a database of prostitutes and their customers. The central location took calls from interseted enquirers, logged them onto the database and then sent out messages to the available ladies who were equipped with electronic paying devices.

The database held details of girls, and customers names, phone and credit card numbers and sexual preferences. The police arrested the two leading organizers and are now in the process of contacting customers who are listed on the database; probably not something greatly to endear hi-tech to them.

In France, the videotex service Minitel is being investigated by a high-powered government body after charges that the service is being used for a whole range of sexual activities from sexual chatlines to online prostitution rings.

Minitel terminals are provided free to anyone with a telephone and there are nearly two million in service in France. However, far from being only used for technical purposes, more than one third of all network traffic is now thought to be of a sexual nature.

'open access' was the only practical possibility. Since that time however, it is believed that videotex serivces such as Prestel, Micronet, Compunet etc keep a wary eye on the material on their systems and are quick to pull off messages likely to offend or break the law.

In the US, Bulletin Boards are regarded as 'the largest singles bars in the world'. Someone recently pointed out as, initially at least, the communications are exclusively electronic everyone can be imagined as beautiful — often an improvement on the real thing.

The US games adventure company Infocom has introduced the first X-rated computer game — its 'lewd' level of Leather Goddesses of Phobos. Samantha Fox's Strip Poker is still selling well months after its release and there are a number of other strip poker computer games including one for women in which a digitized man takes it all off. AMIGA versions of Strip Poker is promised shortly from Anco in the UK and

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[illegible]he editors in charge of this section include psychologists, doctors, social workers etc. The kind of questions are 'Can Kissing spread AIDS', 'Fantasy among married women' and 'Is there a male menopause?', all fairly innocent. There is however, another network, CVC, that runs and adults only service 'Sextex' which does not censor messages. All users must sign a form stating they are over 18. Sextex contains graphic and totally explict material and even reviews hardcore pornographic material. We were unable to find any of the material that we could reprint in CCI. Even a travel guide 'Hot spots' was of nude beaches and clubs which cater for exceptionally kinky tastes. Sextex also takes advertisement for sexual toys and shops including the intriguingly named 'One Night Stand Survival Kit'.

The main problem is that it would be necessary to view every item of censorship on computing, especially in communications networks — even transient material like chatlines — a task that clearly would require impossibly high resources.

The control (or lack of it) of sexual material that might offend some people and please others is just one aspect of the breaking down in communications central authority. Today the individual has the means to transmit communications without, public control or restraint. It is not easy to accept that other have the freedom to do what we may not care for. However, with the growth of international computing networks and other technological advances like satellite broadcasting, national boundaries and local moral values become almost impossible to impose and maintain on the world at large.

Sexual freedom may not be something one immediately associates with computers but it is another example of how technology infuences social change.

A.M.

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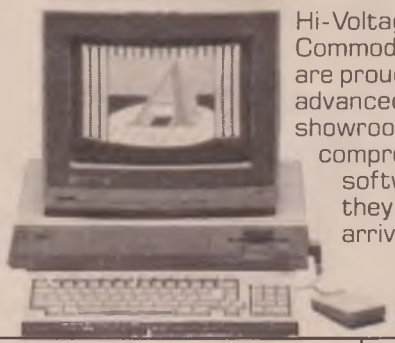

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Citizen MSP-10E Printer

The MSP-10E is an 80-column dot-matrix printer operating at two speeds. Citizen claim a speed of 160 characters/second in *draft* mode and 40 characters/second in *near-letter-quality* mode (NLQ). Whilst any printer manufacturer's figures should be taken with a pinch of salt purely on the basis that no manufacturer has to my knowledge, published the method of how these figures are arrived at, the figures I achieved using part of this article as a test were:
Draft Mode — 89 cps NLQ Mode — 27 cps

So much for claimed printer speeds, althought the MPS-10E is undoubtedly on a par with other printers with a similar claimed speed. The print speed can be selected by a switch located on the control panel on the exterior of the printer as well as by the more usual method of software selection, a nice convenient touch.

The unit is well-packaged and supplied with a 206 page indexed manual which also provides a tear-out sheet listing the various software control codes — another thoughtful touch. The manual is well written and there are a large number of example programs within it written in BASIC to demonstrate the various features of the printer plus some useful hints on using the MSP-10E with MS-DOS and CP/M applications software such as WORDSTAR. A push-feed tractor is used for the paper handling where fanfold stationery is in use. This is better than the more usual *pull-through* type of tractor found on other printers since the paper loading process is much simpler and faster. It also has the usual built-in self-test sequence and a *paper-out* detector.

The Citizen MSP-10E is configured to emulate the functions of the redoubtable EPSON FX-series of printers. However, the user can also select an IBM graphics printer emulation mode which are measurably more useful to the bulk of users since this mode contains a number of mathematical formula symbols as well as character symbols more appropriate to modern business needs. Unfortunately, the selection between configuration modes could only be achieved through resetting internal switches. Admittedly this operation only entails 4 cross-head screws and typical of the Citizen attention to detail, these screws are captive, meaning that they merely have to be loosened rather than removed and invariably in time, completely lost.

In use I found the printer to be fast and reliable and with an average monthly output from the Donald workroom of 30-40,000 words which is roughly 175,000 characters/month, the MSP-10E performed flawlessly. Indeed, CCI have been so impressed that we have used this printer as a general-purpose office machine. The interface used is the *industry standard* Centronics parallel and connection to an AMIGA A1000, Commodore PC-20 IBM clone and various assorted Commodore 8-bit machines presented no problems.

The quality of print obtained from the NLQ mode was very good and several people who were not aware of the source made comments to the effect that I must have purchased a typewriter! From a technical point of view to achieve this level of quality from only a 9-pin print-head is vey surprising. The other point that impressed about this printer was the level of noise during operation. A dot-matrix printer is unlikely to achieve noise levels comparable with a laser or inkjet printer simply on the basis of the technology it uses viz. an impact of ribbon to paper. However since noise levels are, in the absence of a decibel meter together with a prescribed standard test procedure a subjective matter this printer sounded a good deal quieter than most other dot-matrix printers. Last but not least, any prrospective purchaser of a printer should carefully examine the costs and availability of expendable items e.g. ribbons. It can be a shock to see just how much these can cost over the course of a year — I feel sorry for those readers who have a colour dot-matrix printer with ribbons costing a minimum of circa £15.00 each! Happily, the ribbons for the MSP-10E fall into normal price range and there was no need for concern.

In summary the Citizen MSP-10E is a fast, reliable dot-matrix printer and is worthy of consideration for users who require speed along with feature not normally found at this level of price. On this basis alone the MSP-10E offers very good value for money.

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Superdesk

The 128 comes into its own!

The much underestimated C128, besides being a very good games machine in its C64 guise, is also an extremely versatile business machine, and since it can be picked up for about £185 on Tottenham Court Road (less than a 64C at present) it is a very good investment. At that price, if you already have a disk drive and printer, even the Amstrads look dear, and the quality of finish is much superior. It has a lovely key-board and unlike the C64 it has both 40 column and 80 column screens — a distinct advantage when running business software even if you have a fairly low quality colour monitor a simple switch arrangement allows a reasonable monochrome picture in 80 columns while a cheap monochrome monitor gives an excellent performance. It runs a wide range of business software in CP/M mode, and in 128 mode there are a number of spreadsheets, word processors and databases available. For the money the greatest advantage of the 128 or the 64 is the fact that both Superbase and Superscript can use memory at the same time and although this limits Superscript it is not serious for most short articles.

Jim Kenn Chairman of I.C.P.U.G. the Independent Commodore User Group, has come up with a lovely little programme, Superdesk designed to do for the C-128 what 'Sidekick' does for the I.B.M.P.C. It allows you to hop about automatically between the two programmes doing all sorts of useful things. You load Superscript and Superbase, using the same 'Superdisk' work disc as the data disc for both, and when they have loaded a menu is presented enabling you to call up friends and business addresses write letters and memos to them make phone calls and generally run your daily chores with very little effort indeed. What's more it is free!

Clocking-in time comes first the programme asks for today's date which it will place on letters, memos, records etc. and note when you last wrote to or 'phoned someone, then a large 'Primary Menu' fills the screen. The initial letters of commands are all that are needed to carry them out.

'Key' brings the request for a name, and when supplied this becomes the current record. 'L' for Letter results in your letterhead, with today's date and the addressee's name and address, being almost intantaneously loaded. A touch of a key and you may type your letter in Superscript. At the end of the message touch Escape (or Run/Stop) F (for Yours faithfully), or S (for Yours sincerely) or even C (for Cheers) and the valedictory message is inserted magically before your very eyes. It leaves space for your signature then types your name. But there's more! Quite automatically, without your touching another key the cursor jumps up to the addressee's name and address then down again to the end of the letter and copies it ready to go on the envelope. Put a sheet of paper in the printer and press Esc P and the printer leaps into action, types your letter and waits for you to remove the paper and put an envelope in. It then ejects the page. When you are ready for removing the letter touch Esc R (for Return) the letter is sent to disc. The only file that the programme is configured at Drive 9, which case this drive is called up and the letter saved, the programme then reverts to Drive 8 with Superdisk in it, to await further orders. If you have only one drive then you may opt to put in your letter before leaving, or use the 'Superdesk' disc as your letter disc, changing it when full. For 1571 owners there are dictionary files built in so that you rarely need to change a disc.

For 1570 and 1541 owners the dictionary files probably take too much space to allow for a reasonable number of names and addresses so are better omitted.

In addition to letter-writing the desk contains a Diary, takes care of expenses, and automatically records and totals business and personal phone calls, presents the bill to you on request or at the end of a week or month. The method of dealing with 'phone calls is quite clever. From the main menu you tap 'T' for Telephone and a request menu pops up asking whether you are in Cheap, Standard or Peak time, then presents the name of the person being called (the current record in the database) and his business and home number. You dial the call and on being connected press SPACE. It is much quicker to do than to write about. The running time of the call is displayed together with the mounting cost. I can thoroughly recommend this as a cure for long-windedness on the 'phone. Even in cheap time a B call clocks up cash at a phenomenal rate. On completing the call you press SPACE again and are asked if you wish this to be recorded as a personal or business call, or not recorded at all. A single touch is the opportunity to amend the last call or expense entry before it goes on permanent record.

A second 'Utilities' Menu, called up from the first, deals with internal 'house-keeping' and more is a facility for creating a Xmas Card or Birthday list, as well as lists of club members, debtors (or creditors) these are based on the Superbase program, of course.

The beauty of this gem of a program is that it is based on the Superbase programming language, which is a much faster Basic, and that Jim Kenner has kindly included it in the Public Domain which means that you may alter it or copy it for a friend, the only charge being a reasonable fee for the copying procedure. It may not be sold for profit. There is a 'Read Me' file on the disk explaining the main points, and Jim has used slightly different methods of programming for each of the features, so that you may see how he has accomplished a particular feat. He invites you to amend the programme, extend it to suit yourself, and generally have fun. This is where the pleasure and fulfilment comes in for many computer owners, and even if

you are a raw beginner I am sure that having listed Jim's program you will be tempted to have a go, though some experience is needed for major alterations.

There are a number of Esc key commands included, using Superscript's command key facility. Two key strokes change the disk drive number, alter the printer output from Serial to Centronics or vice-versa, switch on or off justification, centring or underlining, start a new page, or even transpose two characters. An excellent paragraph numbering demonstration deserves to be mentioned. This is not of Jim's own devising but was sent in by Garry Benneworth after a request by an I.C.P.U.G. member who needed it in his work as a solicitor. In making up letters from previously stored paragraphs (a feat for which Superscript is admirably equipped), you simply place an asterisk where the number should be on each stored paragraph, and when you have assembled your document type Esc (or Run/Stop) *. Sit back and watch while the search and replace function, programmed by a built-in command sequence, takes each asterisk in turn and replaces it with a consecutive number. I used it for numbering 35 rules in a club booklet I was asked to produce. The Committee kept on inserting new rules so that it would have been a tedious task to erase and renumber every time a new rule was inserted, but the command macro just described coped with it easily. I was so intrigued by the ingenuity that I was inspired to create a tiny command sequence of my own, which automatically types and centres the little decorative gizmo with which I finish articles and notices. I also added to the main menu key for producing a mail-merge letter based on Xmas lists and so forth. You are simply asked for the name of the list and the merge letter (previously created using the letter-writing option) and away you go.

Jim does suggest that new owners be invited to join the completely Independent Commodore Users Group, which with a yearly subscription of £10 is, as I mentioned in a previous article, the best thing you are likely to spend the money on. You will save far more than that in the first year on discounts negotiated on members' behalf, and you have access to a tremendous amount of free but valuable advice. The magazine, published every two months, is packed full of ideas, reviews, offers of substantial discounts on reputable equipment, etc., and there is a free disk copying service for programs in the Public Domain, including Superdesk. Please note that Superdesk itself may have changed considerably because of improvements suggested by happy users. That is how I.C.P.U.G. works.

P.R.

I.C.P.U.G. Mr Jack Cohen Membership Secretary I.C.P.U.G. 3 Brancaster Road Newbury Park, Ilford, Essex IG2 7EP.

Superscript and Superbase 128: Precision Software Ltd. 6 Park Terrace, Worcester Park, Surrey KT4 7JZ. Copies of my version of Superdesk on supply of a disk and return postage. Please state whether 40 column or 80 column version required. G.D. Richardson, 5 Wallpark, Buxton, Derbyshire SK17 6.

T-Shirt Spectacular

It seems as though too many long nights in front of the monitor has affected the eyesight of some of our readers... well to be honest, I wonder.

We made a special offer in the July issue whereby new readers could obtain a FREE T-shirt by subscribing to the magazine. Unfortunately many would-be recipients only read the bottom bits, and the T-shirts were gleefully omitted from the cheque!

Overwhelmed by the albeit misguided, response, 100 cheques were drawn and FIVE lucky readers received a T-shirt. The winners are:

Tony Baldacchino — Swinton, Manchester
Rebecca Dix — Swansea, Wales
Kuljinder Singh — Birmingham
Hans Skoglund — Sweden
N Dobbie — Bath

To the many many others who applied for T-shirts, sorry, but keep your eyes open for future competitions and you may win one yet!

COMPETITION RESULTS

SPIN DIZZY COMPETITION

D. Bake, Kenton Serbert, N. Yorks; R. Palmer, Stafford; [illegible], York; S. Pearson, Uxbridge; D. Laidler, Harris, Marko [illegible], Finland; S. Embury, Staffordshire; P. [illegible], Rotherhithe; A. Waller, Birmingham; D. [illegible]arke, Peckham; D. Abbott, Plant; Jens Brahmer, Sweden; Lee Russell, London; J. Gasson, Horsham; M. Bj[illegible]ha, Sweden; John Folly, Middx; J. Tyrell, Liverpool; Ian Thompson, Worcs; Alex Butwick, Northwood, David Connor, Liverpool; M. E. Ve[illegible]ar, Herts; Chris Gar-butt, Essex; J. Cassidy; T[illegible]e & Wra[illegible] Greg Swire, Brentford; Brian Newnes; [illegible] Wirral; D. Reynolds, Caerphilly; T. Richards, Lancs; [illegible]tev, Carr, E. Sussex; Igor Ahlbert, Finland.

UNDERSTANDING COMPUTERS

A hundred years ago, an educated person — or probably man — could have a reasonable working knowledge of everything the science — or scientist — of his time could comprehend. Indeed he was expected to. Now with thousands or even millions of scientific papers being published, it is impossible even to attempt a superficial acquaintance with everything there is to know. And yet more information pours out every day. It is said that more than nine tenths of all the scientists who ever lived are living and working today; that more than 90% of the world's total scientific knowledge has been acquired in the last 20 years —and the pace is accelerating every day.

Computers, of course, have started to play a fundamental role in storing this flood of information and allowing us relatively easy access to it. But someone recently said that if you had to design the ideal storage vehicle for information, you would probably choose a book — it's easily transportable, requires no great training to use, provides exceptionally easy access to the information it contains, is cheap (relatively) to produce, occupies little space etc.

It is therefore ironic that the computer which was once thought to be likely to replace the book has been chosen as the subject of a series of excellent books by the renowned TIME/LIFE organisation. The series — Understanding Computers — sets out to explain the whole world of computers. Yes, everything from the people who created this extraordinary and fast-changing industry — the Packards, Jobs and Gates — to the complexities of what makes the chips in watches, cars and, of course, computers work.

Published in seperate volumes starting with 'Computer Basics' they are the most comprehensive and comprehensible books on computing that have come our way. One of the most outstanding things about them is the clarity, simplicity and sheer beauty of the illustrations, which break down the complexity of computers so they can be understood at a glance. They are, witthout question, outstandingly attractive books. They are not, however, just "coffee table" ornaments. The text is simple, fast-paced, but complete with a very wide range of subjects covered. They will interest everyone from the hotshot propeller head programmer to the novice with the new 64C still in the box.

At £12.75 (UK price) each, they are well worth the money.

A.M.

64 Word Processing

Word processing, once the domain of the stand alone unit like Wang which will cost thousands of pounds,was brought to millions cheaply by the 64. Throughout the world, word processing packages have meant that all the facilities that most people could use are now available for around £50.

The list of word processors available for the 64 is virtually endless but some have become generally accepted as leaders.

There is a considerable number of good first class word processing packages well worth considering. These include the excellent "Pocket" range which comes from Canada — from which 128 products are reviewed in this issue. There is also of high repute Ariolasoft's Paperclip — which has just appeared with an 85,000 spell checker.

Possibly the two most popular word processors (in terms of units sold) for the C64 are Superscript and Vizawrite. Both have been developed over several years and have reached a level of refinement that makes them suitable for almost any level of word processing. About the only two features missing are the inability to display different type styles directly on the screen (more usually referred to as *fonts*), and to show more than 40 characters per line of text at any one time. However, these are limitations of the hardware, not the software.

Superscript uses a cursor-driven menu to select the numerous options. The menu is not displayed on the screen continuously which has the benefit of releasing space for the users text and not causing a distraction. Access to the menu is by means of a single function key. Moving around the menu is done by the use of the left-right cursor key while final selection is indicated by pressing the return key. If a menu selection has some secondary function, then these are displayed and the process is repeated. This may sound rather long-winded, but in practice it is very quick since a brief description of each option is also displayed on the screen. Experienced users can select directly from the keyboard using just the first letters from each menu option. Thus to optain the disk directory you would press the input key F1 then the D key and the D key again. It is surprising just how quickly you can operate in this manner once you have learned the most commonly used key sequences.

The display of your text is one of a window both down and across the document. The user can scroll sideways across the text and up and down from the start to the finish of the text. Formatting the text — that is the arrangement of the text into columns and paragraphs, is carried out on screen so other than the limitations of the 40 column display the screen is a good reproduction of what will appear on your printer. By and large Superscript is an extremely good word processor with many facilities for these heavyweight applications as well as being easy to learn and use.

Vizawrite has much the same type of facilities as Superscript but takes a different approach than the screen handling. In this case the display is based on that of a document page. Thus you can scroll up and down as well as across the page, which has the boundary between each page very clearly visually defined. This may be easier for new starters to word processing although some facilities are not as comprehensive as Superscript. In particular the printer handling can be tricky to set up for those users who do not have a Commodore serial printer and are using a Centronics printer. Another weak spot is the file structure which makes it difficult to move a file to another application such as a database or spreadsheet for further work. Superscript uses a standard sequential file which does not have this problem and the C128 version of Vizawrite manages to overcome this problem.

The command structure of Vizawrite employs the same method of access, that is, using the keys although each of the function keys is used to obtain a specific action. The masterkey with Vizawrite is the Commodore LOGO key which then opens a whole series of text handling commands. One useful feature of Vizawrite is the scratchpad where users can place odd notes and jottings away from the main text. Both Vizawrite and Superscript provide a spelling checker/word counting facility. This is a common feature found in standard business word processors and makes life for those of us with poor spelling very easy indeed. My own view of both of these word processors is that Vizawrite is usually more attractive than Superscript but does not have the overall functionality for ease of use and the latter. However, do not let these views get in the way of your own decision making — always, always try before you buy any software.

There are a number of other word processors for the C64 which are cheaper than the previous two. This generally means a loss of some functions. For example the first casualty is normally the spelling checker — not so important if you are merely creating personal letters but, vital if a formal document. Another point to watch out for with word processors at the lower end of the market is document size limitations. Some will only allow several pages of the document or may only work with a cassette. To a large extent it rather depends on what you want a word processor to do. Other users whose need is only an occasional letter would probably be better off with the minimum necessary. It is also advisable to check carefully the printer support — all word processors for the C64 will operate with the MPS 801/3 printers although the cheaper word processors may have difficulty if you have some obscure make of Japanese printer. Once again my advice is to check carefully before parting with any money. Some cheaper word processors for you to look out for are Speedipen from JCL Software (see review p38) and Skiwriter (p43). These offer good value for money. Some others are Tasword-64 from Tasman which is useful if you have come from another machine such as the Spectrum or Amstrad since this software is available on these two machines and this saves the user having to learn everything all over again. Word Perfect from Supersoft is another solid down-to-earth product from this respected software house.

If money is really tight, then you can always try looking for word processing software in the public domain through your national User Group. Admittedly this source is rather thin on the ground where word processors are concerned although SpeedScript is generally reckoned to be on a par with most commercially available software. The only problem here is a lack of support for technical queries, poor documentation and limitations on the printers that can be used with it. Try to ensure that you obtain the latest versions and always remember that it is public domain software which never has the same degree of robustness from crashing as would a piece of commercial software, therefore save your documents regularly. I have only briefly touched on the subject of word processing on the 64 but hopefully have stimulated a few ideas. Reading the advertisements and reviews in CCI is a very good way of keeping abreast of the latest developments. **B.D.**

DATEL ELECTRONICS

THE NO 1 NAME FOR COMMODORE

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NEW IMPROVED VERSION

FOR C64/128 *ONLY* £24.99 POST FREE

- Stop the action of your game and make a complete backup to **Tape** or **Disk**
- Action replay works by taking a 'snapshot' of the program in memory so it doesn't matter how the game was loaded — at normal or high speed — from Tape or Disk.

Just look at the features, no other unit can offer such value.

☐ TAPE TO TAPE ☐ TAPE TO DISK ☐ DISK TO DISK
☐ DISK TO TAPE ☐ ALL BACKUPS WILL RELOAD AT TURBO SPEED AND RUN INDEPENDENTLY OF THE CARTRIDGE.
☐ SPECIAL COMPACTING TECHNIQUES TO SAVE ON DISK SPACE.

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Yes at the flick of a switch you have a fast load cartridge that will speed up your normal disk load speed by 5-6 times.
Special switching hardware makes the fastload invisible to the system:— Uses no memory.

SO SIMPLE TO USE. Just load your game as normal. When it progresses to the point at which you want to save it, simply press the button then:

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- Press 'T' to save to tape to reload at high speed.
- Press 'S' to save to disk to reload at normal speed.
- Press 'C' to enter "Code Inspector."

THE PROCESS IS FULLY AUTOMATIC – JUST GIVE THE BACKUP A NAME

100% SUCCESS

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Action Replay is under constant development to stay on top of latest releases. No other product will cope with as much software as Action Replay – despite our competitors claims.
In fact in our most recent tests we could not find any memory resident program that could not be backed up!!

WARNING
Action Replay is designed for the user to make backups for their own use – Datel does not condone piracy.

EVEN MULTI-STAGE PROGRAMS

☐ Now programs that load extra sections can be transferred from tape to disk.
☐ Works with most programs Nova + Standard System.

HIRES SCREEN DUMP

☐ Any hires screen from your favourite games can be saved to disk.
☐ Compatible with many graphics packages including Blazing Paddles, Koala etc.

Action Replay II is designed and produced by Datel incorporating the top programming skills of Dosoft – two of the original names in Commodore utilities.

ACTION REPLAY ENHANCEMENT DISK

Extending Action Replay's capabilities even further, this disk contains a collection of tape to disk routines for a few newer games which load subsequent parts in a non standard way. All the latest titles are catered for – more than any competing utility, and unlike other systems, ACTION REPLAY LOADS EXTRA SECTIONS AT TURBO SPEED. Disk includes file copy, disk backup and other useful utilities. Regular updates at low cost for use with Action Replay only. **Disk £7.95.**

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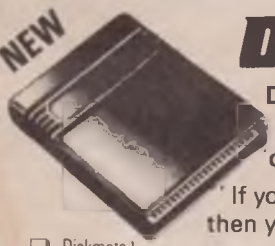

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Built in Reset Switch

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❑ Diskmate * is a fast disk turbo loader that will speed up your normal loading software by 5 times

BUT THAT'S NOT ALL

❑ Fast save
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PLUS A powerful machine code monitor/disassembler. All the usual monitor commands: assemble, disassemble, move, find, compare, fill, number conversion etc., etc. **NB.** This is a full monitor, not a token effort like some available.

* Diskmate incorporates special switching techniques which make it "invisible" to the system. Therefore the fastload will work with more software than other types. In addition this makes the other commands including the monitor more powerful. For instance the monitor 'floats' and is able to look under ROMs and even under itself!

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Diskmate II was designed by Datel and the programming is by Dosoft. Need we say more?

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- FAST COPY: Copies a disk in under 2 minutes
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- FAST COPY: Enters 1571 mode and copies a disk in under 1 minute
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- C64 mode: 2 minutes

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This is the module that gives Fast Hack'em its power. The parameters module contains dozens of "Parameter Keys" that are used to unlock those heavily protected programs. Each parameter is designed for a particular software brand or even a particular program. Other copy programs may make strong claims, but without special parameters they just can't cope. Datel will be offering updates to Fast Hack'em on a quarterly basis, featuring 20-50 new parameters plus other improvements as they're made. Prices to be £6 plus old disk.

****WARNING****
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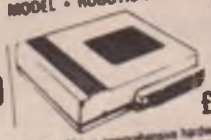

£39.99 POST FREE

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- 4 output channels each with on board relay • 4 digital inputs fully buffered. • Analogue input with full 8 bit conversion.
- Sound input for voice recognition and voice controlled switching.

☐ Software features: sequences to control output, Analogue measuring module, Test Program, Voice Activation Module, much, more. Voice recognition software to be released soon.

Total package no more to buy!

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Now with the Com Drum digital system you can produce studio quality drum rhythms with real drum sounds. All the features of systems 10 times the price.

- A complete digitally recorded drum kit, i.e. 8 voices – kick drum, snare, tom-tom, hi-hat, cymbal etc. etc. N.B. these are real drum sounds – not synthesized.
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- External sync facility • Very simple to use.
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Enables you to construct your own drumkits. 24 Drum sounds supplied on disk which you can arrange yourself to make custom kits. Names are then added and saved as a complete set for use in the Com-Drum. Existing kits as supplied with Com-Drum can also be editing to your choosing. Available on Disk only £4.99 post free

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Fast Format Fast Save

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Turbo Rom II can be upgraded for £8 plus old chip

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An 8K or 32K pseudo ROM cartridge

£14.99 8K version **£29.99** 32K version

Now you can have a cartridge that you program as if it were computer RAM then acts as if it were ROM

- ☐ Battery backed to last for over 5 years (when current). Simply load in the program and flick the switch. The cartridge can be removed and retain the program just like ROM.
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- ☐ 32K version offers 4 x 8K pages under software switching.
- ☐ Some knowledge of m/c is required but full instructions included.

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NOW FOR YOUR COMMODORE 64

The Datel Sampler now brings you this technology at a sensible price!

- The Sampler allows you to record any sound digitally into memory and replay it instantly at any pitch, backwards, forwards ascending scale, descending, with echo, reverb, flanging, endlessly looped etc. Truly professional hardware incorporating
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A comprehensive software package including

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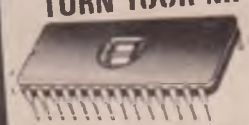

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POCKET PLANNER 128

In today's cut and thrust professional world, one thing is doing very well and thriving despite everything — the business computer. It has the ability to manipulate numbers with the same sort of speed as a whole office block full of busy accountants working away with pen and paper. The software which makes this possible, the spreadsheet, is the computer's accompaniment.

There are many kinds of expensive computers and many kinds of expensive spreadsheets. But today we have powerful home computers that are relatively inexpensive. These, backed up with serious software, allow almost anyone to handle a small company's accounts with ease. The C128 and Pocket Planner 128 is just such a combination.

The office at work has an IBM with Symphony and when I am at home I have a C128 with Pocket Planner and in my opinion when value for money counts, the latter takes the pride of place. I find I can do just as much with Pocket Planner or possibly even more.

Digital Solutions Inc from Ontario, Canada have recently released in this country a trio of business packages under the titles of Pocket Writer, Pocket Filer and Pocket Planner. What makes them really useful is their ability to handle and integrate each other's files so that you can combine them to produce one complete finished piece of work. Last month we reviewed Pocket Writer, now it's the turn of Pocket Planner.

User Friendly

Loading takes only 40 seconds. You are presented with a choice of printers to output your copy. The configurations are automatically set. The opening screen gives a matrix as usual but with a range of other commands available to you on the help display. This to me is what "user friendly" really means as there is always help at hand at every stage. It is possible to use this program without even reading the very comprehensive reference manual that accompanies it.

As with all spreadsheets it is simply made up of cells, but this program has nearly 25,000 cells available for you to

use. It is possible to change the colour of nearly everything on the screen if it doesn't suit your taste and you can display more cells on the screen if you omit the help display from the screen, although help commands are still available.

Manipulation of the matrix is very easy indeed. Sizes can be from only 2 characters up to an incredible 200 characters although only a maximum of 78 are displayed on the screen or printed out, yet data is still evaluated. If you want to make entry into part of the spreadsheet difficult, you can set horizontal or vertical "locks" which establish boundries for scrolling the cursor. In a different way titles can be preserved down the side and along the top of the display so they are visible all the time.

Windows are possible and if you wanted to view two distant parts of the Spreadsheet at the same time it is very easy to create the display and view these together. Find/replace load, save, overlay, trigonomic functions, smart evaluation etc etc along with all the usual arithmetic calculations make this a truly versatile spreadsheet comparable to my beloved symphony.

Better Presentation

Pocket Planner allows cells to be protected, have fixed values or indeed be sorted alphanumerically or reverse order. Entering labels and values is very much the same as with many spreadsheets although this version allows you to produce a document very much as though this were a word processor. Wordwrap and variable margins are employed. This permits you to enter explanations of statistics or headings to be printed wherever necessary to make your finished piece of work easier to be understood or better presented. French characters can also be produced such as à é ç etc, probably because of its Canadian origin and could be very useful.

One nice point is the graphing facility. This lets you illustrate up to nine groups of values in a spreadsheet into four kinds of graphs — simple bars, stacked bars, lines and pies. These can be outputted to the screen or printed out to paper if you own a dot matrix printer. This version is one of the easiest and best presented utilities I have come across.

If I were to advise a first time buyer on purchasing a professional spreadsheet **I would not hesitate to recommend Pocket Planner. Don't worry if you already own one and are feeling its limitations, break free, you'll not regret this purchase.** The producers say it will be able to handle VisiCalc files, although this wasn't tested. **B.C.**

Contact: Digital Solutions Inc., 30 Wertheim Court, Unit 2, Richmond Hill, Ontario, Canada L4B 1B9. Tel: (0101 416) 731-8775.
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Electronic Funds Transfer

Money as an abstract? DARTS, CHAPS and SWIFT. New ideas and new terms in banking. Len Keighley explains.

For a number of years the Banking world has made extensive use of computers. These are not the micro-computers with which everyone has become so familiar, but the large and powerful mainframe computers, the IBMs and ICLs etc. More recently this use of computers has become apparent to us the customers. The most obvious being the cashpoint machines or auto-tellers that many banks and some shops have installed. In banks such as the TSB a computer terminal is present at every counter to update the customers account immediately with any cash transations or amendments to their accounts. However, this is only the tip of the iceberg as computers are used more and more to carry out automatically the transfer of funds from one customers account to another, no matter which bank they may reside at or even what country. All this comes under the heading of Electronic Funds Transfer or EFT but the field of EFT has far greater implications to us the customer than just the transfer of funds.

Point of Sale — POS

Electronic Funds Transfer at Point of Sale (EFTPoS) has been discussed by the banks, building societies and major retailers for quite a number of years and over the next few years is set to become a major part of the way in which we pay for our purchases. It revolves around the use of a credit card style piece of plastic to initiate the 'transfer of funds' transaction. No one standard method of processing the card or even the way in which the transaction is authorised by the customer has yet been agreed upon. However, a number of pilot schemes are in operation at present as well as those installed solely by some major retailers.

DARTS— Organised initially for use with the VISA card so that a purchase can be authorised against the customer account at the time of the purchase. However, the final authentication still remains by sight in the comparison of signatures. Use of the ACCESS card should soon follow. The system is currently in use at the Brent Cross Shopping Centre and the exclusive food store Fortnum and Masons. A similar system is in operation at Debenhams stores for use with their own chargecard.

PISCES—This is run by the NATWEST subsidiary computer bureau Centrefile and was set up in conjunction with the credit card companies. It is used by petrol stations for the processing of credit card transactions. Each transaction is stored at the petrol station until the end of the day. It is then automatically collected, usually during the night, by the Centrefile computers for collation and further processing with each credit card company being supplied with its own information via the BACS system (see later).

CRESTA—This system is being tested by British Telecom in conjunction with Cresta Communications. So far one million transactions valued at £20 million have been processed from high street stores and petrol stations.

Money Transfer

The EFTPoS systems have a high profile and are easily seen in operation however, other more extensive money transfer systems have been implemented to handle the high volumes of money transactions that occur day to day. These systems however, are not for the general public but are to assist the banks to quickly obtain transactions for their customers. Some large businesses are also involved in this area particularly the multi-nationals. The major systems used in this area are . . .

BACS— The Bank Automated Clearing Service was set up some years ago by the major clearing banks as a clearing house for computerised transactions. Each bank sends a tape of transactions or in some cases transmits them over Telecom lines to the BACS ICL computers. These transactions are then sorted and collated into those belonging to each individual bank and returned by the same manner as they are received. Some larger companies supply tapes of their payroll transactions to the local bank branch for transfer to BACS and subsequently the banks of their employees. Therefore if you are paid

monthly it is likely that your money has gone through the BACS system.

CHAPS— The Clearing House Automated Payments System is used to handle the sterling settlement for the inter-bank money market dealings and stock transfers. The twelve 'settlement' banks use the British Telecom Packet Switching System (PSS) via Tandem NonStop computers. Other 'participant' banks can only access the CHAPS system by one of the Tandems using Olivetti, ICL or NCR equipment.

SWIFT— The Society for Worldwide Interbank Financial Telecommunications was set up to provide an automated facility for inter-bank funds transfer on an international basis. Originally it was designed to alleviate the problem of increasing volumes of paper transactions. However, other problems were solved in the removal of the language barriers between international banks by use of the common code of SWIFT.

Another major system which has just been implemented is the new automated Stock Exchange system which was nicknamed 'the Big Bang'. This system consists of a number of different computer systems one of which is the automated buying and selling of shares. When a preset price is attained the computers initiate the buy or sell without human intervention. Recently this was at least partly blamed for the large drop in share prices on Wall Street. Another part is SEAQ, the Stock Exchange Automated Quotation system which streamlines the obtaining of a share-price for the customer.

The Future

The future is, as always, difficult to predict and with the rapid introduction of computers into banking the prediction is made even harder. The introduction of EFTPoS over recent years has slowed, probably due to a number of unrelated reasons such as the cost and the poor response to a cashless society from us the customers. However, this can only be a delay as both the banks and retailers have a vested interest in the savings such a system would give them.

One future development in the personal computer area is the facility to access your own bank accounts via your own micro and telephone line. This is in fact already available to a limited number of people who are customers of the Nottingham Building Society and who have accounts with the Bank of Scotland. This sort of facility would of course be extremely useful to large businesses in the control of their spare funds.

Recent developments in credit card technology have been pointing the way to a more secure card which will be a computer in its own right, the 'Smart-Card'. The micro-chip implanted in the card can also be used for a variety of applications not only to do with banking. This includes such as medical records for allergies and even recent X-ray pictures.

Micro-computers like the PC are beginning to appear in the back offices of banks and are used for such things as credit scoring and an analysis of the customer account base.

Whatever happens the increasing use of computers will continue to affect the way in which we buy anything and even the form that money takes. For remember money can be viewed as an abstract and therefore it does not need to be pieces of paper or lumps of metal only, like so many other pieces of information, as a binary yes or no.

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CADPAK—128

Cadpak-128 is a high-resolution design and draw package for the Commodore 128. The software is supplied on a single 1541 format disk together with a 86 page manual and runs in 40-column colour display mode. Full printer support is offered which extends beyond Commodore serial printers to Centronics and colour printers from the User Port. The resolution of the printed output is 640 by 360 which is adequate for the bulk of potential users. The system allows for the size of the drawing to varied on the printer thus an imaginative user could produce some very creative work by means of overlays. The Cadpak drawing can be stored on disk for later recall in addition to being accessible from BASIC or 6502 assembly language for incorporation into your own programs through the user of the *template* function, discussed later. Within the manual there are several programs in BASIC detailing the interface operation. The manual was not only clear and comprehensive, but included the all-important examples as well as some sample drawings for inspiration.

Unlike other drawing packages this product allows the user to produce an exactly scaled printed output. This also means that you can operate in the chosen units of your drawing i.e. metres, miles, etc., with all dimensions exactly scaled. The scaling factor is set when the screen is initialised. The software also solves the problem of circles on a dot-matrix printer so that circles are printed out as such and not flattened at the circumference.

Cadpak-128 operates on a menu. Support for lightpens is also provided which speeds up the creation process considerably. An example of the flexibility of this package is shown with lightpen operation — the user can switch this device on or off from the menu as for certain operations it is more convenient to use the cursor keys — a very nice touch. Some other drawing packages I have used with lightpens seems excessively sensitive or difficult to calibrate with a lightpen. Not so Cadpak-128, it was literally a case of *plug-in-and-go* and I found the responsiveness of the system both fast and accurate without undue sensitivity.

There are two display screens for the user to work with. The first is the very large screen which is sized 640 by 360 points and termed the *Main Screen*. Note that this is not the screen resolution, this is set at 320 by 200 by the hardware and in effect you are moving around on a high resolution area which is twice the normal size. The secondary screen is 320 by 200 points in size and images may be freely copied between screens, although always within each screen *window*. The copy operation will also allow rotation in 90 degree steps as well as increases in the image size. A *mirrow* or reflection function is also provided. Text in 4 different sizes may be entered anywhere onto your drawing and the system disk provides 3 special fonts — *tech, olde-english* and *3-D*.

An advanced feature of this product is the *object management system* which controls images of 16 by 16 pixels defined on the second screen. After the creation of one of these *OMS* images it may be saved to disk for later recall into another drawing. Cadpak-128 will support no less than 104 *OMS* images at any one time and control of the placement of these is very precise. An object-editor is provided to produce additional fonts for drawings. This allows for the replacement of the default Commodore character set and the new font can be saved for later use.

There are 7 different patterns available for area-fills and an editor is included in the package to allow the user to redefine these. The size of these patterns is 8 by 8 pixels. One of the most thoughtful features of Cadpak-128 was the *Try-Again* function which allows a retraction of the last menu command.

Templates in Cadpak-128 are line drawings which the user can create and merge into other drawings. A *template* is formed in the same way as a drawing by selecting the functions and positioning the line elements viz. *line, box, circle, arc, curve,* etc. In addition to this the *template* can be saved to disk which provides even further flexibility to the user. The *template* file has a very simple structure and is easily accessible from BASIC.

The manual contain many tutorials to get you up and running providing a genuine insight into serious computer-aided design techniques. If this were not enough the disk contains in the *OMS (object management system)* section some files with electronic and mathematical symbols. There are maps of the USA and several state maps within the *templates* section which can be used in conjunction with the main country map.

Cadpak-128 is a genuinely useful product for the Commodore 128. The more I used this the greater my admiration became for the programmers who created this package — I was really surprised by the capabilities of both the hardware and software which seemed to be operating in complete harmony, unlike some other Commodore 128 drawing packages. My only criticism lies in the lack of support for plotters, not that silly little Commodore 1520 thing but a real A4 size plotter since this hardware/software combination is perfectly capable of producing standalone work. Perhaps the next version will include this or even move into the 80 column display mode of the Commodore 128. Without doubt an outstanding and very impressive piece of software for the Commodore 128.

B.D.

Price: £34.95 (without lightpen)
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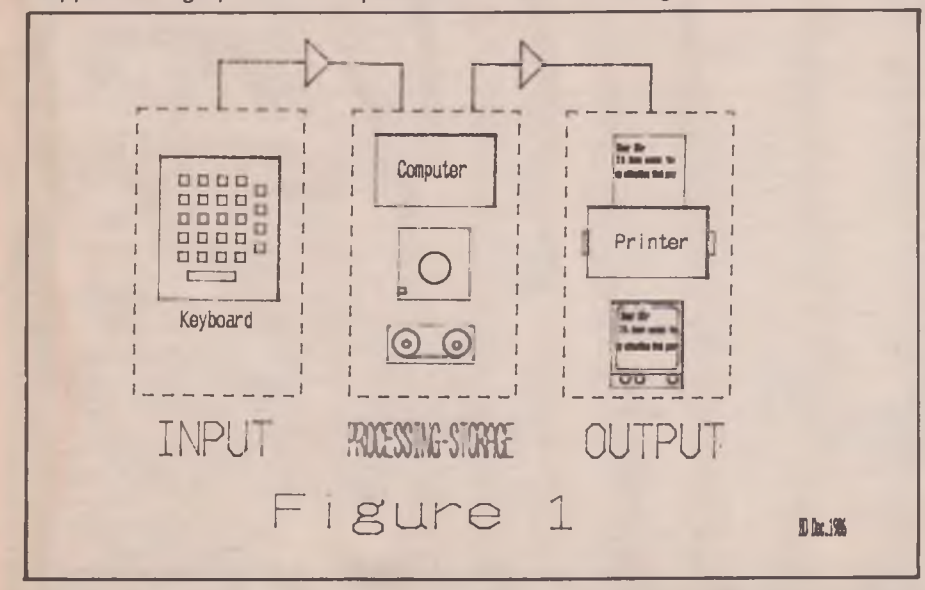

Figure 1

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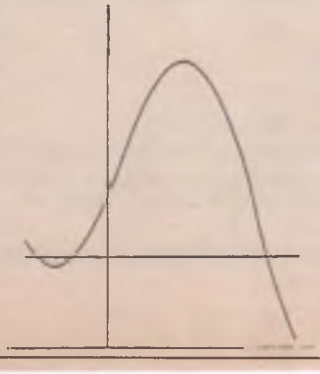

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Pocket Filer

128

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Pocket Filer 128 is one of a suite of three, the others being Pocket Writer and Pocket Planner. All three have been written with the intention of getting the user up and running in the shortest time possible (30 minutes is mentioned). They are all able to be used in conjunction with one another and can exchange data files etc.

On powering up the 128, Pocket Filer will auto-boot (assuming the disk has been inserted into the disk drive) and will go on to display the first panel in either 40 or 80 column mode depending on the state of the 40/80 column key. Should you have your monitor switched/attached to the wrong output a message will appear on the non active display telling you to either press the 40/80 key or to re-route the output (Pocket Filer 128 will work in either mode). This is indicative of the thought that has gone into the programme. Once you have decided which display mode you are going to use you are then asked the type of printer you intend to use although you can in fact change this at any time. Most of the current printers are catered for and the output can be sent in Commodore, parallel or serial format. It is possible to define this and numerous other options including screen colours, device numbers etc. In a Configuration file. This is loaded at boot time and saves you having to set them up each time you use the programme. I only wish all software had this sort of feature.

The programme is split up into four main parts. A Create module, an Enter/-Edit module, a Report module and a Utilities module. The Create module is used to design the layout of your database. It is simple to use and requires little more than the cursor keys, the enter key and the F1 function key. This makes it a little long winded at times but very easy to remember the commands. The Enter/edit module permits you to enter your data into the database you set up earlier with Create. There are facilities to search for specific records fulfilling certain criteria, to sort records into various orders again depending on criteria you may have specified, to establish passwords, to print records any many more. The Report module allows you to tailor your reports so that you can include only the fields of a record you require. Fixed data can be added and records can be arranged in columns to save space or print labels. You can also perform mathematical calculations based on data in the records, create subfiles using search criteria and make reports usable as word processing files. The utilities module lets you backup files from one disk to another or to restructure a database. Restructuring lets you convert a Commodore sequential file that has data in a regular pattern into a Pocket Filer file. Handy eh?

Conclusion

This is a well thought out Database with only a few minor gripes to taint what is an otherwise excellent programme. I found the manual a little confusing at times, with 'Getting started', 'General functions' and the four main modules often overlapping and repetitive. I would have also liked to have been able to use the layout I used when creating the databases. in the Reports module (If you can. I couldn't find out how). Once you are familiar with the basic concepts, the programme is fast and easy to get around and can be driven using only the inbuilt help facilities without much trouble. It makes good use of the 128's extra features over the 64 and implements the 40/80 column option very well. Pocket Filer has now taken over as my main Database in place of a package costing several times as much. I look forward to trying the rest of the suite. If they are anywhere near as good as Filer I may well be changing Word Processor and spreadsheet as welll

I.B.

Price: £49.95 (inc. VAT).

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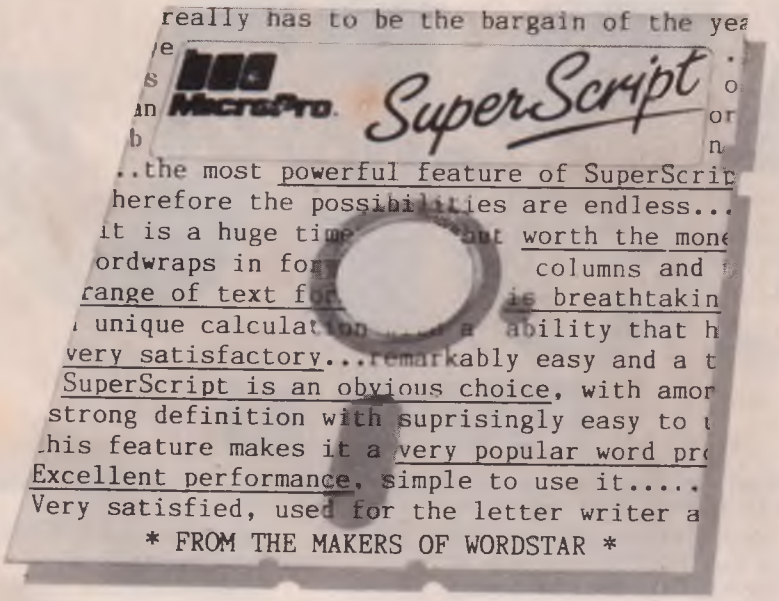
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BASIC for beginners

PART XI

In the last issue we looked at *relative files and disk files* in general — this portion of the series is concerned with delving deeper into the disk drive through *direct-access* programming. The disk drives that Commodore have produced for the 8-bit home-user machines, that is the 1541, 1551, 1570 and 1571 drives are all *intelligent drives*. This means that the drives contain their own micro-processor and are capable of operation without the continuous involvement of the controlling machine's micro-processor. They contain some RAM, input controllers (6526 CIA's and input/output as for the C128) and a ROM for the *operating system* of the disk drive's equivalent of your machine's *KERNEL*, a term you may have come across before. In effect, your disk drive is a computer in its own right, albeit a rather slow one with an input/output mechanism that relates to magnetic media only i.e. the disk, rather than a keyboard and screen.

Using intelligent drives has advantages and disadvantages over a *dumb* drive such as those the AMIGA uses. An intelligent drive gets on with the job it has been instructed with by the *controller* — the computer. This means that the controlling process can get on with something else such as accepting keyboard input. For example, if you *validate* a disk you should find that you still use the cursor keys and enter fresh instructions into your machine. Try this and see. Don't forget to *close* the channel.

```
Open 15,8,15:Close 15
```

When the drive warning light has extinguished, close the file, in this instance the file number is 3. The disadvantage to using intelligent drives are the limitations over the degree of control the programmer can make over the disk drive. This is shown with the dumb drives of AMIGA which can be made to read and write to any disk format such as Apple, Atari, BBC, MS-DOS, CP/M, even Commodore DOS! The reason why a dumb drive has this ability is because a dumb drive will execute exactly instructions sent to it. In simple terms the drive has no electronic circuits similar to those in an intelligent drive other than those to switch the motor on or off and move the read/write head mechanism.

That's why both [illegible] programming [illegible] everything you [illegible] there are several [illegible] the BASIC programmer [illegible] useful and powerful. However, be warned that direct-access programming is potentially dangerous to disks since a number of the built-in system safeguards is to protect the disk are removed. *Practice on a disk that contains data you can afford to lose.* In other words, backup the disk before you try programming.

Commodore BASIC provides the following command for direct-access disks:

Command	Function
U1	Read a disk block into drive RAM.
U2	Write a block from drive RAM to disk.
B-P	Set a pointer to a data byte in a disk buffer.
B-A	Set a bit in the disk RAM to show sector in use.
B-F	Set a bit in the disk RAM to show sector free.
B-E	Load and execute machine code into drive RAM.
M-R	Read (PEEK) byte to drive RAM or ROM.
M-E	Execute a routine from drive ROM.
M-W	Write (POKE) byte to drive RAM.

Some of these are obviously very advanced and my initial reaction was to avoid mentioning these. However, on reflection I decided that it better that readers are aware of the facilities offered to them by the disk drive even though many people never use them. You will also note that some of them require a knowledge of format structures which is beyond the scope of this series. Readers who require Commodore DOS should [illegible] many books on this subject. The place to start is with the User Manual supplied with the drive itself, although you may find that this merely follows the Commodore tradition of being badly written and the going is rather difficult. Knowledge of direct-access programming allows you to recover deleted files, display tracks and sectors as well as repair corrupted disks.

I'll start with a very simple example of one of these commands, the Block-Read facility. Enter the following program which must be saved before running it. Ensure that the drive contains a formatted disk that you can afford to lose **before you RUN this program.**

```
10  OPEN 15,8,15
20  PRINT#15,"10"
30  INPUT#15,MN$,MM$ MT$,MS$
40  IF MN$ <>"00" GOTO 190
50  OPEN 1,8,1,"#"
60   PRINT#15,"U1 1,0,18,0"
70  INPUT#15,MN$,MM$ MT$,MS$
80  IF MN$ <> "00" GOTO 170
90  FOR X = 0 TO 255
100 GET#1,Y$
110 IF Y$ = "" THEN Y$ = CHR$(0)
120 Z= ASC(Y$)
130 PRINT ST,X,Z
140 IF Z >31 AND Z<96 THEN PRINT
Y$
150 PRINT:PRINT
160 NEXT X
170 CLOSE 1
#80 INPUT#15,MN$,MM$, MT$,MS$
190 CLOSE 15
```

This program transfers the contents of a pre-determined track and sector into the disk drive RAM — the 15xx series of disk drive have 2k of RAM divided into four 500 byte blocks or *buffers*. The programmer can utilise three of these buffers at any one time, the remaining one is used by the operating system of disk drive. The program above reads the contents of track 18 sector 0 into a buffer which is then read from the screen. The format for the Block-Read command is:

PRINT# *filenumber*, **"U1:** *channel drive, track, sector"*

There are several alternatives to this format but this is the one I prefer. OK, back to our program -- the first line opens the disk drive command channel which is **always** channel 15 while line 20 initialises the drives.

```
10  OPEN 15,8,15,
20  PRINT#15,"10"
30  INPUT#15,MN$,MM$, MT$ MS$
40  IF MN$ <>"00" GOTO 190
```

These two lines are re[illegible] process to keep us out of trouble. [illegible] reason for opening the [illegible] channel is to read any error [illegible] drive may return to the [illegible] a wise programming practice to incorporate this into any program involving the disk drive. Commodore DOS can warn you that an error has occurred by flashing the disk drive light, it cannot explicitly inform you of exactly what has gone wrong unless you have previously opened the command channel **and** instructed to read this channel. This is done in our program in lines 30 and 40 by means of the string variables **Mx$**. Variable **MN$** takes the error number **MM$** takes the error message derived from the error number, **MT$** and **MS$** inform you of the track and sector where the error has occurred.

Line 50 may cause some consternation to you with the use of the hash (£) symbol. What we have done here is to open channel number 1 and requested the disk drive to select one of the buffer blocks mentioned earlier in the text.

```
50 OPEN 1,8,1,"#"
60 PRINT#15,"U1:1,0,18,0"
70 INPUT£#5,MN$,MM$, MT$,MS$
80 IF MN$ <>"00" GOTO 170
```

We finally begin to use the Block-Read command in line 60 — note that the *drive-number* is **always** zero using the 15xx series of drives. Those readers who are lucky enough to own a dual-drive can select either 0 or 1 according to the drive they wish to use. Lines 70 and 80 are querying the command channel for any errors that may have occurred during the execution of the Block-Read command. If an error has occurred, program control is moved to line 170 which closes channel 1, the channel we opened to perform the Block-Read.

The next lines are concerned with translating the contents of the buffer which the drive has placed the data from track 18 sector 0 into a readable form.

```
90  FOR X = 0 TO 255
100 GET#1,Y$
110 IF Y$ = CHR$(0)
120 Z = ASC(Y$)
130 PRINT ST,X,Z
140 IF Z >31 AND Z<96 THEN PRINT
    Y$
150 PRINT:PRINT
160 NEXT X
```

First we set up a loop using the [illegible] variable **X** and the [illegible] to lift the data [illegible] buffer using the **GET** [illegible] next the data into a string variable [illegible] the **GET** [illegible] data at a time. When [illegible] a data value that [illegible] a screen [illegible] a *null* value [illegible] Y$ into a value that represents [illegible] the screen. Data that can be [illegible] into a screen character is handled by line 120 using the variable **Z**. In [illegible] matic form, lines 100 to 120 [illegible] represented by:

READ the buffer ONE CHAR at a time, put it in Y$ IF the character [illegible] THEN put it in Z. Change the character to a form that can be [illegible]

*Line 130 [illegible] the system status reserved variable **ST** as another safe-guard to the program integrity as well as the loop counter variable **X** and **Z** the numeric value equivalent to a character value. Line 140 the test is made to see that Z remains within the bounds of a screen printable character, if not then Y$, The null* character is printed instead. The remaining two lines are a basic screen formatting routine and the residual part of the loop counter mechanism.

```
170 CLOSE 1
180 INPUT#15,MN$,MM$ MT$,MS$
190 CLOSE 15
```

The final lines form the shutdown procedure for the program — lines 170 and 190 acting as the end-points of the two GOTO's while line 180 serves to turn off the disk drive light if this has been lit by any error or otherwise during the execution of the program.

I do not think that you should have found any difficulty in following this program and it could form the platform for a simple disk reader utility. The first place you could start at is with the screen design of user input/output through the use of clearing the screen and employing colour to make it more attractive. What about using red to signify an error message, of even make it flash and emit some type of warning noise? Another area is to allow user selection of a track and sector, thus you would need to look at line 60 and create a routine involving numeric data capture from the keyboard after assigning the *track* and *sector* to numeric variables. Please do not simply sit and look at a program — always try to find ways to improve and enhance it, this is undoubtedly the best way to learn about programming. Remember that there is no [illegible] thing as the perfect computer program [illegible] a program can **always** be [illegible] in some way no matter how [illegible]

[illegible] do not have a disk [illegible] this particular section [illegible] the series [illegible] seem to be of any value or interest to you. However, I think most readers would appreciate that if you intend to carry on any serious programming then a disk drive is essential and really opens up you horizons. The only drawback to disk drive is the expense of purchasing one although most owners would agree that using a cassette unit after using a disk drive is rather like watching monochrome television after watching the same thing in colour — not recommended! The next part of the series is unfortunately the final one and this part I will be revising the topics we have covered in the series. Judging by the letters and phone call to me it seems that string handling and arrays continue to prove the most contentious areas in BASIC programming. I will also make efforts to tie up any loose ends that I managed to miss during the course of this series.

S.D.

LASER GENIUS By Ocean Software

Laser Genius from Ocean Software is a comprehensive machine code development system for the C64/128. It comprises three modules; the first two, 64 MAC/MON, which load as one file, and a Monitor/Analyser. 64 MAC/MON supports more than 70 commands to help you with the creation of source code, and includes a two pass macro assembler, a line editor, a machine code monitor and a tracer. You may load one of two versions of 64 MAC/MON; one resides in low memory from $0800 to $47FF, and the other in high memory from $9000 to $CFFF. Once you've loaded 64 MAC/MON, you are given the option of reserving memory for your object code and after a press of the return key you are in command mode. In this mode, there are commands to initialise auto line numbering, move, copy and delete blocks of lines, find all occurrences of a particular sequence of characters (and change them if you wish), and list to screen and/or printer in various formats. 64 MAC/MON allows all the usual pseudo-opcodes such as ORG, BYTE, WORD and DBYTE, plus a number of not so usual ones such as PAD (to fill an area with NOP bytes) and BLOCK (to reserve space). All lines are checked as they are entered and in the event of an error, even its position along the line is pointed out. Once you have entered your source code, it an be saved to disk with the save command and disk space is kept to a minimum by compacting the text in a sequential file. There are also options to save the object code, once it is assembled, either as pure machine code or in ASCII format. The assembler can be operated in either RESIDENT or DISK mode, the latter for chaining files on disk that may be too long to hold in memory as source code. The monitor part of 64 MAC/MON is fairly standard and all the normal machine language commands are there plus a very nice relocation command which moves object code from one area to another, updating all JSR's and JMP's as it does so! The tracer included in 64 MAC/MON is also a handy option, allowing, as it does, single stepping through machine code with options to print the registers at each step along with the contents of selected memory locations, so that you may see exactly what is going on as your code runs.

As you can see by now, this is a very powerful programming tool already, but the best is yet to come. The thing that sets Laser Genius apart from the competition is the Monitor/Analyser. Occupying a cool 12k of memory (don't worry — ocean have provided a relocatable version as well), this module is a programmers dream come true! The Analyser will not only allow you to single step or slow run your object code but also let you define conditions and signal you when they have been fulfilled. For example, it is possible to define an Analyser word that will be checked any time a particular area of memory (or indeed a single memory location) is written to and to stop at that point in the program. Couple this with the ability to slow run in various modes with or without a memory dump and/or register display, and you have a very powerful tool indeed. Working your way through any part of Laser Genius is made very easy by the extremely comprehensive (70 page) and well presented manual, and Ocean do provide a technical backup service for anybody having problems.

Conclusion

To sum up then, Ocean are to be congratulated on providing 64/128 machine code programmers with an extremely powerful tool at an excellent price (17.95 disk — 14.95 tape). It is my personal favourite program for the 64 and I highly recommend it to advanced and novice assembly language programmers alike.

IB

Price: £17.95 (disk) — £14.95 (tape).
Ocean Software, 6 Central St., Manchester M2 5NS Tel: 061 834 3939.

ROBOTEX 64 By Datel Electronics

No it's not a robot. It's an interface for the commodore 64/128, providing control for motors, robots (hence the name maybe?), models and all manner of electrical gizmos. Robotek 64 comes as a 5" x 4" plastic box with an integral 24 way plug which plugs into the user port, a small microphone, a 20 way IDC plug with a couple of feet of 20 way ribbon cable and some software. Once plugged in, all that shows to the front is a small red LED which illuminates when the computer is powered up. At the rear of the unit you will find 3 sockets comprising 1 x 20 way IDC socket, 1 x 9 way D type socket and a 3.5 mm jack socket. There is also a three position switch which governs how or what type of input is to be used. The IDC socket provides 4 buffered logic level inputs, 4 relay outputs (50 volt at 1 amp) with both normally open and closed connections and type socket has two analogue inputs. One with a range of 0-2.5 volts and the other of 0-25 volts. It also has a 5 volt 50ma output supply. The 3.5 jack is for use with the microphone and has been suitably biased so as to enable it to read the AC signals generated by voice etc. The 3 way switch simply selects which socket to take its input from.

The software comprises a small machine code programme which demonstrates and tests the various inputs and modes. It includes an output sequencer with speech/sound input.

Conclusion

If, like me, you are the experimental type (or a mad professor!) you will find the Robotek 64 a wealth of inspiration. It has a comprehensive range of input and output and can be driven from Basic or Machine code with ease. I have hooked mine up to the wife's exercise bike and with a little software it provides her with a display of miles per hour, distance travelled and pounds shed (I hope she doesn't read this). I feel, however, that the instructions were a little muddy and it would have been nice if they had included a page of ideas with which to put the Robotek 64 to task. The software could also be a little more dynamic by, again, including more options and thereby more ideas. Even a few simple Basic routines could help. The only problem I have with my Robotek 64 is leaving it alone long enough to do some of the more important things in life like — eating, sleeping etc etc etc!

IB

Price: £39.95

Datel Electronics, Unit 8/9, Fenton Industrial Estate, Dewsbury Rd, Fenton, Stoke-on-Trent. Tel: 0782 273815.

COBOL 64/128

by Abacus

ADAMSOFT has for a number of years been an importer of the software products of the American software house, ABACUS. A COBOL Compiler for the C64 is now available, as is one for the C128.

COBOL is the mnemonic which stands for Common Business Oriented Language. It was conceived in the late 1950s as a language that would be capable of easy transfer between different manufactures computers, be easy to amend and extend as requirements changed and that relatively inexperienced staff would be able to use to write the programs. The US Department of Defence undertook most of the work and the now Vice Admiral Grace Hopper is credited with the invention of COBOL. The first working version of COBOL, COBOL-60, was available in 1960 and COBOL as a language has continued to advance over the years with new versions in 1965. 1974, and 1980 with a new version due out soon.

The American National Standards Institute (ANSI) is responsible for drafting guidelines for COBOL and the ABACUS version conforms to their 1974 standard, better known as ANSI74.

The ABACUS package consists of a disk containing the COBOL compiler programs and some sample COBOL user programs, and a manual explaining the peculiarities of the language. As far as I am aware no cassette version is available. The COBOL compiler programs are different for the Commodore 64 and 128 versions. The difference being that the C128 holds all the compiler modules in core, while the C64 has to read in various programs for specific menu actions and this suggest why no tape version is available. The COBOL programs written on the C64 version are not immediately compatible with the C128 version and vice versa. Therefore a conversion process is necessary before they can be used on the opposite machine. This is done by making use of a temporary file created as part of the CRUNCH option. This file, prefixed with 'CS', is read into the opposite machine by use of a CRIP command not identified in the main menu. However, apart from these there are no differences in the actual use of the packages.

After loading the COBOL programs which consists of an Editor, Compiler, Interpreter and Symbolic Debugger, a menu is displayed in the bottom few lines of the screen. The various options provided in the menu are selected by entering the appropriate option number. The full list of options is...

CRUNCH — This option is designed to reduce the amount of space your program requires. The reduction is gained by re-using the lines that have been previously deleted.

DEBUG — This is similar to the RUN option except in addition a series of debugging processes are included. A further debugging menu is displayed for user selection.

EDIT — This option is where the COBOL program is entered or amended and a further set of commands are available such as LIST, DELETE and AUTO (automatic line numbering). The AUTO feature is extremely useful as all six digits of the line number must be entered. Some of the commands are duplicated from the main menu.

GET — This option reads in the required COBOL source file. These are stored as two disc files with a prefix to the user name of C1 and C2.

NEW-NAME — This option will change the program file name on disc.

NEW PROG-EDIT — This deletes the current program from core and then enters the EDIT function for user input.

PRINT ON/PRINT OFF — These options switch the printer output feature on and off. While on, all keyboard input and screen output is output to the printer.

RUN — This runs the program, however, the COBOL program is first tested for syntax. If any syntax errors occur control is returned to the main menu. Otherwise the COBOL program begins to execute.

SAVE — This allows the current program to be saved to disc.

COBOL has four main divisions which are self explanitory and must be present in all programs. These are the IDENTIFICATION, ENVIRONMENT, DATA and PROCEDURE divisions. In mainframe COBOL compilers each has a part to play. However, I feel that in this version they are only cosmetic and while they are required, or syntax errors will occur, they have very little impact on the program itself.

COBOL is a highly complex and sophisticated language which in its full implementation consists of a large number of procedural verbs. For obvious reasons not all of them can be implemented on the C64 or C128 but the most commonly used are present such as ACCEPT/ADD/DIVIDE/MOVE/PERFORM/EXIT. One of two unique verbs have been added that map onto features of the C64 and C128 such as ACCEPT-1-KEY which equates to the BASIC GET verb.

The first of the main Divisions is DATA where all data requirements need to be described. However, a record structure is easily available which is not in BASIC. The second is the PROCEDURE Division in which each statement consists of one or more actions for the computer to do in grammatical English form, such as...

MULTIPLY PRICE BY QTY GIVING COST.
or
PERFORM VALIDATE-ONE THRU VALIDATE-END.

This makes it far easier to understand for inexperienced programmers than BASIC. However, careful use of data and paragraph names must be made or this easier understanding is lost. Also DO NOT forget the period '.', because COBOL is grammatical the period has a significant part to play in the program, particularly in the use of the 'IF'.

As it states in the manual, which is quite well written, COBOL on the C64 and C128 is not the best way to write programs. However, it would bring to the micro arena, a large number of computer professionals who write COBOL programs. Its best market area will be the students of schools and colleges who are learning COBOL and would like to continue the process on their own micros. At a price of around thirty five pounds for both versions it is not cheap but I believe well worth it, and after all no computer is complete without a COBOL compiler. **LK**

Contact: ADAMSOFT, 18 Norwich Avenue, Rochdale, Lance. OL11 5JZ.

SPEEDIPEN By JCL Software Ltd

Word processors are a little like adventure games. There are hundreds of them and they all contain the same basic commands. So what makes Speedipen any different from the rest. PRICE! £9.95 for a disk based machine code WP is very competitive. I suppose Speedipen is closer to a modern electronic typewriter than a professional word processor but the end result is much the same—an error free document. It can handle 250 lines of 80 columns (20,000 characters) with the option to store and retrieve all or part of a document to/from disk or tape. Full screen editing, much the same as the 64's BASIC screen editor, is provided which gives it a familiar feel and makes it very easy to use. If you are part-way through a word as you reach the right hand margin, that word will be brought down to the next line. This avoids having half-words on the screen. However, this 'word-wrap' feature can be turned off if you don't like it. There are facilities to set margins and tabs, to right justify all or part of a document, to centre a line of text, to locate any word within a file and several others. Most of the more common Dos commands can be accessed, allowing you to format a new data disk or delete a file etc etc. There is nothing worse than finding you can't format the disk onto which you want to save your 4 hour masterpiece without leaving the programme AND YOUR TEXT. A non destructive directory is also included. Options are available to change the device numbers of disk and printer with additional commands to allow you to alter your printer set up. If you specify your printer as device 7 this will send all printer commands to the user port. This, with a suitable cable, will enable the use of a non Commodore printer such as the Epson FX80. The Centronics/user-port cable I use did not work with this option. However, by loading in a popular Centronics driver routine prior to loading in Speedipen, I overcame this without any problems.

Conclusion

For the casual word processor user Speedipen should more than fit the bill. It is fast and easy to use and yet sophisticated enough to remain flexible. The 28 page manual is both clear and concise and includes a handy quick reference guide. It is not going to take the WP market by storm but will fit into the as yet sparsely populated low cost business software niche. The only problems I encountered were the inability to enter auto insert mode and finding myself unable to exit the programme by the means they described. Neither of the problems caused me any heartache and may well be fixed in the final version.

IB

Price: £9.95
Contact: JCL 1 Sheffield Rd, Southborough, Tunbridge Wells, Kent TN4 0PD.

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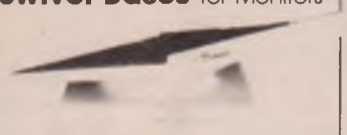

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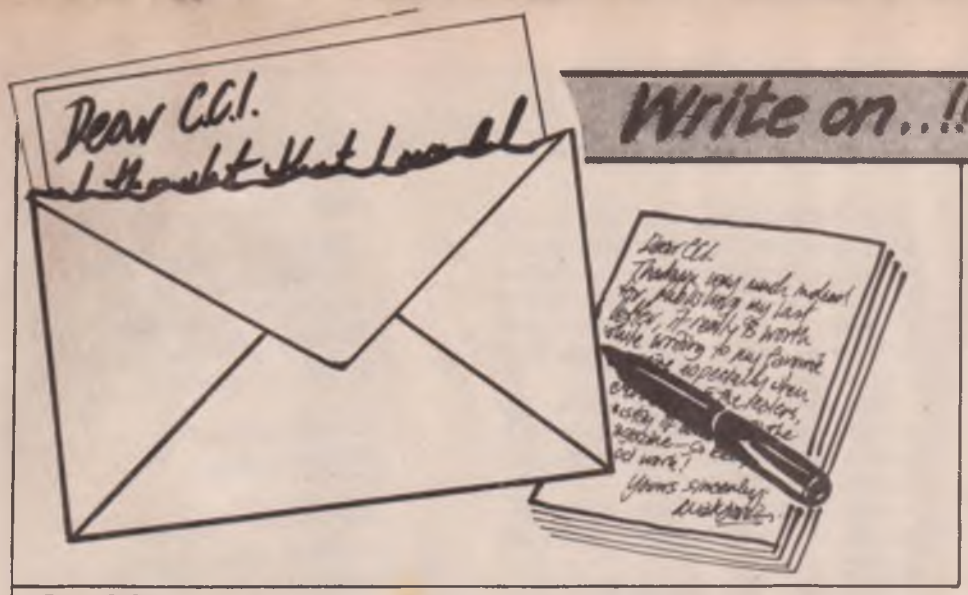


Dear C.C.I.
I am a teacher at the Secondary School named below and this week I looked at a copy of your magazine (Jan '87) brought in by a pupil.

I was worried by two things. On page 52 an advert for 'Hot Software' was accompanied by explicit pictures and an offensive description. Also, on page 66 a picture of a very scantily clad girl — Miss International Road Safety Year '86. Your magazine is aimed at, and presumably read by many young, games playing, Commodore users. Although there are daily newspapers with scantily clad girls in, at least they are aimed at older readers. Do you not feel that you have an editorial and moral responsibility for your readers? Or do you feel bound to accept adverts purely on a financial basis. Your magazine's content is bound to influence its readers and I am saddened that you have not taken this more seriously.

Incidentally the child who had your magazine was aged 11.

Yours faithfully
Ms E Nicolson, Hampden Park School, Eastbourne

There is always a problem when an advertisement or photograph which may offend some readers is presented to the magazine. However, there are a number of considerations — apart from the financial. In this case 'Hot Software', in the advertisement text there is, in fact, no offensive description. There may be in the program but we have not seen that and therefore have no right to offer an opinion. We think so-called 'Beauty Competitions' absurd and infantile but have no right to deny those who do not share our opinion their right to enjoy them 'bikini' clad or nude. The 'scantily clad' Miss International Road Safety, might be considered a joke in bad taste — our Super Felix column is intended always *to be that kind of light relief. In any case, she is wearing substantially more than girls on any beach these days.*

Our audience is largely over 16 and by far the majority of the material published is of a technical nature (hence Super Felix) but all *aspects of life are these days influenced by computers, and we personally do not see any need to protect even 11 year olds from the sight of the female or male human body. We would rather you had objected to the amount of violence in computer games and the advertisements for 'Cobra' (Sylvester Stallone) on P.59 or 'Blood and Guts' (P.67) or '1942' (P.64) or 'Star Soldier' (P.70). Why is it that sexuality is considered more offensive than killing?*

Dear C.C.I.
It seems that all the magazines get letters of complaint but very few about the good things concerning Commodore computing.

I started my computer "career" with a CBM 64 when it was first released in Great Britain, since then I have upgraded to a CBM 128 which for me in a business status is excellent (I have used Superbase 64 and Easyscript to catalogue an entire video library and also to produce monthly top 50 lists) and the data that I've produced using a 64 is transferable to the 128 in its native mode.

Dolphin Dos... phew what can I say? Having this fitted to your drive and CBM 64/128 is like buying a new computer imagine, all you adventure players with disk drives, what it would be like to have a game llike Zork in constant memory. The response times would be excellent and this is the sort of effect you can get with Dolphin Dos. Furthermore I copied a whole disc in little under 20 seconds and when your handling large amounts of data this is a boon, believe me.

Many thanks to Evesham Micros. Well done chaps/ladies you're the best company that I've dealt with.

Being a CBM owner has introduced me to lots of other people around the world, something that I think hasn't had the same impact with other computer users.

For instance I now play STARGLOBE 3, a play by mail game run by TimePatterns and it is excellent. I use my computer for sending in my moves and also Superbase for keeping tracks of all my tariffs. Nice one, TimePatterns.

The CBM 64 isn't just a HOME COMPUTER! One of the firms in Stamford where I live called Bowman and Sons use a 64 connected to a electronic box to cut and shape stone for building work and believe it or not the routine for doing so was done in basic (this place is a fine example of a 64 doing more than play games).

Admittedly Commodore seem to have got their marketing strategy a bit twisted but now with reductions in the price of the Amiga and a lot more software coming out for it I think I will have to invest in one. Mind you, I'll still keep the trusty 64/128 because it has its uses.

One final thing Direct Disc Supplies are brill. This company is very fast in coming up with the goods; impressed; yes certainly.

Malcolm James Harnden
CAPTAIN PASIMOV OF THE STARSHIP THE ADVERSARY

Dear C.C.I.
Congratulations on producing an excellent mag, the bumper January edition (200 pages) is fantastic. Talk about value for money. "Not Many Benny".

I am a Plus/4 owner (stop laughing), I was wondering if you could send me a list of all text adventures for the Plus/4. I am a dedicated adventurer, you known, up all night bribing Trolls, fighting witches, exploring castles etc, "Oops there goes another television tube".

It will probably take me a couple of months to read this months issue, the Oskars compilation was fantastic, although there wasn't a text adventure Oskar for the C16.

Out of this year'sMagazine Oskars, I think CCI should get one. You get my vote. (Grovel, Grovel).
Yours, very satisfied,
James Bissell, 26 Yews Lane, Kendray, Barnsley, Yorks.
P.S. If anybody has any free goodies floating about, send them to my address (any FREE 64 computers you don't want!).

Dear C.C.I.
There appear to be a few readers of CCI who are having problems entering my 'Printer Enhancer' program published in the November issue. The listing is in fact correct, so if you find persisting errors then they are just typing mistakes. There is a very short machine-code routine at the beginning of the program, and at least one reader entered this incorrectly. If this is then executed, errors can occur where there were none, which causes much confusion. So, my final words, must be to just persevere, and make sure you enter lines 60-83 correctly!
Yours
Duncan Anderson, Sittingbourne, Kent.
Hope this clears up any problems.

Dear, C.C.I.,

I would be most grateful if you could possibly mention my address in the next available edition of your magazine, as I hope to start a User group in my area. Could you also mention that a S.A.E. needs to be supplied.

Yours most faithfully,

Mr. Stephen Hamer, 98 Crebilly Road, Ballymena, Co. Antrim. BT42 4DS.

Good luck with your project!

Dear C.C.I.

Having read your January issue I feel compelled to write to you after seeing a letter by Jack Harris of London concerning the purchase by the Ministry of Defence of a large number of Ladybird's 'How computers work' books.

I left the service myself quite recently and I know for a fact that these books are used as an introduction before attendance for students about to attend a basic computer users course, who have no knowledge of computers or programming whatsoever.

Rest assured Mr Harris, soldiers do not sit in their missile silos waiting to nuke Russia reading 'How computers work' by adybird!

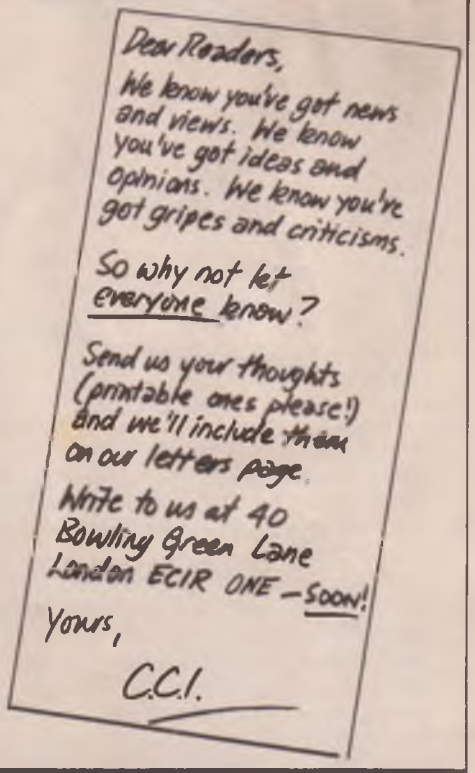
Please publish this letter as the gentleman in question needs to be put straight.

By the way your magazine is the best Commodore publication on the market catering for the whole spectrum (no relation) of the home computer field.

Your faithfully

D. M. May, Hookwood, Surrey.

What do soldiers read while sitting in their missile silos? (Answers on a postcard to....)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Send us your thoughts (printable ones please!) and we'll include them on our letters page.
Write to us at 40 Bowling Green Lane London EC1R ONE – SOON!
Yours,
C.C.I.

Dear Rae...

This month your letters are answered by Rae West. Rae is the author of three large reference books on Commodore computers; the latest is Programming the Commodore 64, following Programming the VIC and Programming the PET/CBM. All are published in the UK by Level Ltd. Rae is also published in the USA by Compute! Books.

Dear Rae,

I would first like to say how much I liked your book "Programming the Commodore 64". It was well written, with lots of good examples and information. For the last month, I have been writing a game in machine code. One routine is a four-way scroll, similar to yours, which runs on the raster interrupt, with the bottom ten lines kept stationary for the score etc. The scroll is very smooth but quite slow. Could you please tell me if there is any way of speeding the scroll up?

Kevin Hunt, Sompting Lancing

The scroll routines I've written are about as fast as it's possible to get them. For example, scrolling up or down requires a poke into a register controlling the vertical position of the screen, with an entire screen shift every 8th poke. So 7 times in 8 the scroll is instantaneous; the other time the limitation is imposed by the chip speed.

It's best to understand the limits of the 64 (as with any computer) and take these into account when designing games, or any other programs.

Dear Rae,

'In November CCI you said you'd sent Mr Fletcher a copy of a diagram showing graphic combinations available with the C64. Could you post me a copy? I would find it very helpful. I don't know how to put sprites higher than 16320 in memory'.

J. Bradby, Coatbridge.

Yes — to do this you have to alter the way the VIC chip is connected to memory. It can be wired in 4 different ways, but the subject is too complex to fit here.

Dear Rae,

I recently took a Plus/4 computer to a friend of mine who resides in Spain. Prior to this, I had tested the computer and found that in all respects it functioned correctly.

However, after it had been set up with a Spanish-manufactured TV set I found that it functioned perfectly with the exception of the sound. As far as I know most European countries (except France) have the same vision and sound channel facilities as Britain, and it seems stupid to conclude that Spanish TV manufacturers exclude the rest of the European market from their product. Any helpful comments or suggestions?

Tony Wright, York

No; I'd also guess your computer would work there. Personally, I'd contact a technical person (not a salesman) from the relevant TV company.

Obscure Hardware Dept:

It's impossible for me to check out all hardware combinations. Can anyone out there help?

D. H. Findell, Ruislip, wants to konw if an Ibica LTR-1 printer is suitable for a Plus 4.

E. N. Daniels, Merriot, is trying to track down a product called 'UPCI'.

P. J. Cooper, Hendon, wants an IEEE interface to connect his C128 to Commodore's 8023 printer, which will work with Wordcraft, Busicalc, and Micro-Swift.

And finally, **C. G. Hooker, of Minchinhampton,** wants to know how to get an English £ sign on his Texan/Kaga KP-810 printer with Vizawrite.

The Art of MIDI
Part 2

— Ian Waugh Draws the Outlines: MIDI Messages, Channels and Modes

Last month, MIDI messages were glibly described as digital signals running along MIDI cables. Other than that, the only other thing I said about them was that there are lots of them. Time for a few more details. Let's see just exactly what MIDI messages do.

Consider a typical synthesiser and think about what you would need to do to play it by remote control. You'd need to be able to specify which notes were switched on and off — and when. You'd want control over such things as modulation, pitch bend and patch changes. Many keyboards are touch sensitive (the harder you hit a key, the louder the note) and many have an after touch facility which will activitate, say vibrato, if you press the key down further after striking it.

Well, this is exactly the sort of information which MIDI messages convey. There is a different code for each of these things and the interface built into each instrument either converts your performance into MIDI messages or converts the messages into a performance. Let's look at this a little closer.

MIDI messages are generally a series of eight-bit bytes — just like the eight-bit bytes whizzing around your Commodore. (if you're not *au fait* with bits and bytes, don't worry as you can manage with MIDI quite well without them. The more you do understand, however, the better you'll be able to utilise your equipment.) It takes a few bytes to tell the receiving instrument exactly what is supposed to happen.

The first byte will indicate a function (this is known technically as a status byte) such as note on or off and the second byte will be a data byte (that *is* its technical name) specifying exactly which note is to be turned on or off. It's even a little more complicated than that as the status byte also specifies the MIDI channel but I can see your eyelids beginning to close so that's enough of that.

You'll only need to know the exact format and construction of MIDI bytes if you use editing software which gives you access to such depths of the system. Then you can pore over tables of MIDI messages to your heart's content but most users will not want to get so involved, at least not at first, so we'll stop there.

All this is worth mentioning, though, to show that MIDI isn't anything terribly clever: it's just an application of standard eight-bit computer technology which you use whenever you switch on your Commodore.

So, with all these messages flying around from instrument to instrument, in order to avoid cacophony of the first order we need a way of specifying which messages are intended for which instruments. MIDI handles this quite simply by allowing us to allocate a message to any one of 16 channels. Individual instruments can then be tuned in to receive on a particular channel.

This brings us to the vexed question of MIDI modes. These are extremely important and sometimes apt to be confusing (you'll see why in a moment) so we'll take them slowly. First, a short explanation of polyphonic and monophonic.

A monophonic (mono) instrument can only play one note at a time. This includes the trumpet and violin. A mono synth would only sound one note no matter how many keys were pressed down. A polyphonic (poly) instrument can sound many notes at once. Examples include the piano, harp and organ. Most synths nowadays are polyphonic but as full polyphony still costs money most are only so-many-note polyphonic. For example, Yamaha's famous DX7 is 16-note polyphonic and Casio's equally famous CZ101 is 8-note polyphonic (although combining oscillators reduces this to 4-note polyphony).

Now to the MIDI modes. There are actually four modes and to make matters even more complicated their operation can vary depending upon whether the instrument is transmitting or receiving.

Mode 1 is Omino On/Poly Mode often referred to just as Omni Mode. 'Omni' means 'all' and a receiving instrument will accept messages on all channels (1 to 16) and attempt to play them accordingly. A transmitting instrument will usually transmit on channel 1 but some let you select the transmitting channel. This mode was originally designed as an idiot-proof mode but other modes are more versatile. Some instruments, especially organs and older synths, still use it.

Mode 2 is Omni On/Mono Mode. This is similar to Mode 1 except incoming information is assigned to just one voice (mono, see). When transmitting, messages for only one voice will be sent.

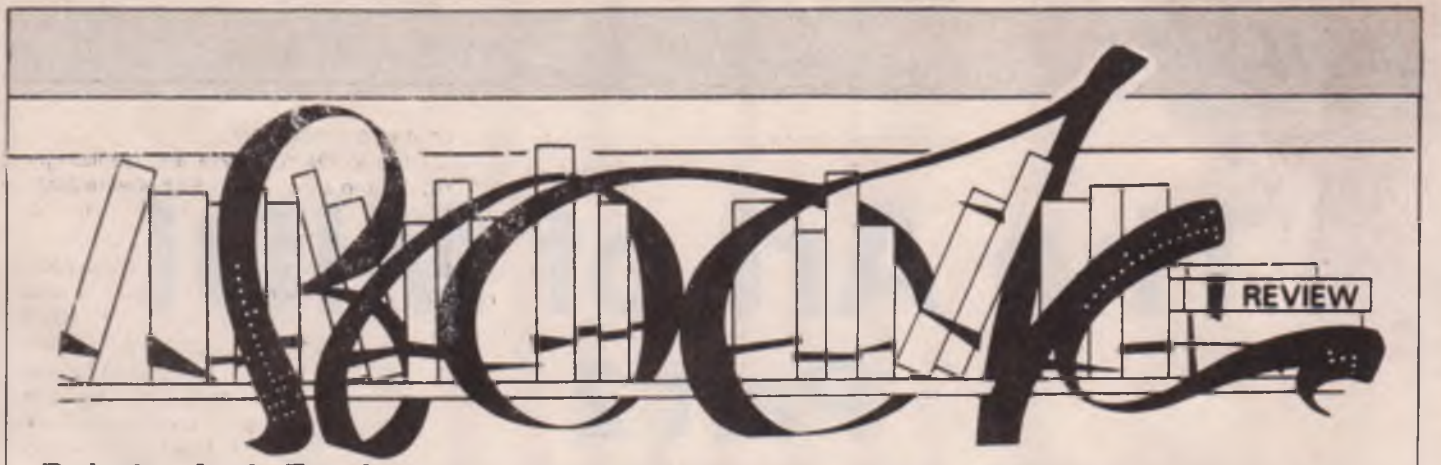
Mode 3 is Omni Off/Poly Mode, usually just called Poly Mode. Omni is off therefore the receiving instrument will filter out information not assigned to its channel. Poly is on so it responds polyphonically. When transmitting, it sends polyphonic messages on the set channel, exactly like Mode 1. Obviously, in order to work, the receiving instrument must be set to the same channel number as the transmitter. This is probably the most often-used mode.

Mode 4 is (you can probably guess) Omni Off/Mono Mode, usually just called Mono Mode. This is rather special but it's also the most confusing of the four modes so read carefully. When this is selected, each voice is assigned its own channel number. For example, if a 4-note synth was tuned to channel 1, voice one would respond to information coming in on channel 2... up to voice four, which would play whatever was sent on channel 4. A transmitting instrument, thankfully, behaves the same way, transmitting voice one on channel 1, voice two on channel 2, etc.

Mono Mode is especially useful for multitimbral synths such as Casio's CZ range as you can play several parts each with a different sound from one instrument. It is also useful for use with guitars.

Next month we'll look at the applications of each mode and the transmission and reception of MIDI messages — and some of the problems which can result. Yes, MIDI isn't all a world of milk and honey.

I.W.



Robots And Empire — Isaac Asimov — Grafton Books — £2.50

Robots as heroes are no new phenomenon, there have been countless tales where the protagonists have been non-humans answerable only to the Laws of Robotics. The difference with the two created by Isaac Asimov in 'Robots And Empire', is that not only are they almost human, but also they are entirely believable.

Giskard and Daneel are, in fact, superior to most humans — as robots in all good robot stories should be — but then, of course, their creator is one of the most prolific and experienced SF authors alive today. If he doesn't know how to bring robots to life — if you'll excuse the expression — who does?

The two robots are the protectors and companions of 'spacer' Madam Gladia Solaria who lives in semi-retirement on Aurora. Middle-aged by 'spacer' standards, (although she looks to be only in her mid-forties she is actually 235 years old!), she still remembers a passionate though short-lived affair with Earthman Elijah Baley, which resulted in the birth of a son; an incident which was hushed-up at the time and which she hopes has been forgotten with the passage of time.

Gladia is disturbed by the arrival of Levular Bandamus, a right-hand man to the evil Mr. Amadiro, villain of the piece and would-be conqueror of the Galaxy. Mandamus, who turns out to be Gladia's unknown great great great grandson, wants her assurance that he is not also the great-great great grandson of Elijah Baley who, when he last was the sworn enemy of Amadiro. For he is, then his career is finished.

Also involved in the story is Baley — descendant of Elijah's wife, Jessie — and an inch bit Baleyworld, named for his illustrious ancestor.

How D.G., Galia and, above all, Daneel and Giskard endeavour to thwart Amadiro's dastardly efforts to bring about inter-galactic warfare is the basis of 'Robots And Empire'. But it is the characters of the two robots that grip throughout. Are they really what they seem or — something more?

The book is well up to the usual Asimov standard. What more can one ask than that?

D.M.

The Encyclopedia Of Science Fiction Movies — Phil Hardy — Octopus Books — £12.95

The first Science Fiction movie was made — would you believe? — in 1895, by the appropriately named Lumiere brothers, Louis and Auguste. 'Charcuterie Mechanique', ('The Mechanical Butcher'), ran for all of one minute and showed a futuristic automated factory in which a machine converted a live pig into processed products. The pig was pushed into one end of the machine and out of the other end came ham, spare ribs, bacon and sausages. The film was catalogued under the heading 'Humorous Subjects!'

This is one of the numerous nuggets of knowledge contained in 'The Encyclopedia of Science Fiction Movies'. It's also a 'must' for the SF movie buff, or any other film buff for that matter, with over 450 black and white stills and 50 colour photographs.

Phil Hardy, and his collaborators, have collected annotated and commented on over 1300 movies in this magnificently researched encyclopedia. There are comprehensive plot summaries as well as complete statistical information on directors, producers, some writers, cinematographers and credits of every film but what makes the book even more enjoyable are the additional pieces of information which the authors throw in for good measure.

For example, Edward Wilcox who made 'The Forbidden Planet', in which the lovable Robby the Robot made his screen debut first directed 'Lassie Come Home'.

Another interesting snippet is that 'The Black Sheep' (and what a prophetic title that turned out to be), was Bela Lugosi's last film for the star died (after de-addiction to morphine), soon after it was released in 1956. All these extra items make reading the book, or just dipping into it, almost like a voyage of discovery.

And what titles there are! 'Abbot & Costello Meet The Killer, Boris Karloff' . . . it turned up on T.V. a few weeks ago . . . 'I Was A Teenage Werewolf', but how about 'Jesse James Meets Frankenstein's Daughter', 'I Married A Monster From Outer Space' (1958), or 'The Attack of The Killer Tomatoes', (1978)?

But the way, tomatoes have not been our only assailants. Variously we've been attacked by 'Crab Monsters', (1956), 'Puppet People' (1958), 'Mushroom People', (1963), 'Phantoms', (1978), and — in 1958 — even by a '50 Foot Woman', who squeezes her unfaithful husband to death in one oversized hand, and in which film the special effects were so dire that her hands was the only piece of her ever seen on the screen!

When Mr. Hardy thinks films are lousy he says so. He calls 'High Treason' (1929), a British film which starred Benita Hume — the wife of Ronald Colman, 'a mixture of political naïvet and downright silliness'. And 'The Creature With The Atom Brains', (1955) which starred Richard Denning twenty years on to be the Governor of Hawaii in 'Hawaii Five-O'. 'It is', says Mr. Hardy not mincing words, 'an atrocious film'. Such honesty is delightfully refreshing.

As with many encyclopedias a few errors are bound to creep in. Some of the stills are incorrectly captioned. It includes foreign-made films as well as American and British, and appendices on the All-Time Movie Flops', showing that, as of 1985, the top box office SF film was E.T. – The Extra Terrestrial', The film which appears most frequently on the critics' list is the 1926 German-made 'Metropolis', Phil Hardy calls it 'the classic of the genre' but it flopped at the box-office, nearly bankrupting UFA the company who financed it.

The encyclopedia is up to 1985, not so SF movies as such. It would be useful if Octopus Books would bring out an up-dated edition, and make it just as good as this one all round, enjoyable count of possibly useless but absolutely fascinating information.

D.M.

Ski Writer

When I grow up I'm going to be a Circus Elephant. Circus Elephants learn one set of tricks which they perform every now and again. In return, they get fed, watered, housed, loved by the kids — even mated once in a while. Software Reviewers, on the other hand, have to learn a new set of tricks every month and nobody loves them. We don't even get scantily clad ladies sitting on our backs and waving to the crowds.

The set of tricks I've been learning this month have enabled me to operate yet another Word Processor. It's called Ski Writer and I've nobly resisted the temptation to make appalling puns about Winter Sports. The name's got nothing to do with snow and mountains anyway. The program was written by a man called Ken Skier and it's received some pretty good reviews in it's native North America. Which is not surprising, as it's a pretty good Word Processor.

Ski Writer is marketed in the UK by Mastertronic, who made a lot of friends when they started selling goodish games at pocket money prices. If this is a sign of what they intend to do with serious software, I'm certainly in favour. Whilst £15 (£13 for the cassette version) is not exactly pocket money, it's less than half the price of a number of Word Procesors which aren't anything like as good.

For a start, it's F-A-S-T. Moving around the text is almost instantaneous if you use the "up a screen", "down a screen", "start of text" or "end of text" facilities. It incorporates wordwrap (i.e. you don't get confusing broken words at the end of screen lines), but then so do most others these days. On-screen underlining is useful (provided you have a Commodore printer or hardware interface — like so many transatlantic products, Ski Writer doesn't have a facility for using Centronics-type printers direct). The usual Word Processor facilities are all there — Find, Replace, Format, Justifying, Centering, Block manipulation, Previewing, Headers, Page numbering.

All formatting instructions are issued by what Ski Writer calls "Dot lines". Any line that begins with a full stop is considered by the system to be an instruction. Some other instructions can be entered in this way provided the "dot instruction" is defined in advance.

I didn't like the single sheet instruction manual. Help screens are available and can be printed out but surely a package of this calibre deserves a more comprehensive manual. Even at £15.

Users of other Word Processors might find some of the features of Ski Writer a little confusing. For instance, the Delete Key erases the character under the cursor and not the one to the left as we have come to expect from the C64. The Word Processor is in permanent "Insert" mode, which prohibits overtyping. CLEAR and HOME move the cusor to the beginning and end of the current line respectively.

Notwithstanding these little winges, I have no reservation in recommending Ski Writer as excellent value. It's a professional Word Processor at a toy price. Contact: Mastertronic, 8-10 Paul St, London EC2A 4JH. Tel: 01-377 6880.

T.L.

Oil Magnate

Mention *oil* and in most people's mind the image of the television series *Dallas* will start to form. I happen to be one of those unfortunate individual's whose spouse is hooked on this *soap-opera* and on the evening it is broadcast I remove myself poste-haste from the room and now play 'Oil Magnate'. The aim of this game is to amass a very large sum of money which I thought was the idea of the characters in *Dallas* — although in *JR*'s case it seems to be a series of object lessons in back stabbing people.

This game follows the normal rules of a board game — you are given a quantity of money and then have to buy and utilise resources. In this case the player has to purchase the service of geologists in order to locate the oil itself. A choice of varying levels of skills of the geologists opens the risk element and this is followed by the purchase of the drilling equipment. Both of these resources have variable cost depending on your selection and your bank balance by this point has declined considerably. The final stage is to purchase the plots of land on which to drill and a large selection is given.

At least you reach the stage where things start to happen and you make your choice of which plot of land to drill. If everything is in your favour you should hit oil — if not, you can continue drilling deeper until either you hit oil or zero bank balance (whichever comes sooner). Good use is made of the PLUS/4 graphics to animate the drilling sequence. When oil is struck the display indicates how much profit you have made from this episode, although the profit is also dependent on the prevailing price of oil. If you are unfortunate enough to strike oil and you have also run out of money you are declared bankrupt and the option is given to leave or start a new game.

I found **Oil Magnate** antagonisingly frustrating since it rapidly became clear that I do not have a great future in the oil business. A game with an addictiveness that was difficult to break since there are so many elements of uncertainty and permutation. In addition to the PLUS/4 high resolution graphics the game also makes use of the sound abilities for the drilling sequence — perhaps in my case the sound of the bailiffs from the bank smashing down the front door would have been more appropriate. The game is single-player only although I have a feeling that it would not be too difficult to change it into multiple-player. I would have liked to have seen a selection of levels of difficulty, or maybe this an subconscious admittance of how bad my performance was with **Oil Magnate** Recommended.

B.D.

Supplier: Tri-Micro Inc., 14072 Stratton Way, Santa Ana. CA 92705. USA.

Ten Pin

Ten-pin bowling was last in vogue in the UK during the late 1950's through to the early 1960's. Seemingly, the advent of television removed the need for people to actually leave their homes for entertainment and since this particular pastime had barely established itself, it suffered declining audiences together with the cinema and football matches. Anyway, enough of the social history and some explanations since many younger reader have never experienced the real thing such as the elation of *smash* or the cringing embarrasement of the ball grinding to a halt halfway down the lane. You mean it happened to you too?

Having played Ten-pin in my younger days and learned the golden rule — that is to make sure that your approach is clear of the hole in the ball at the moment of release. It is quite difficult to knock the pins down given the combination of distance to the pins and the fact that the bowling lane has a degree of curvature (*cumber* towards each side.

This simulation from Tri-Micro accurately reproduces this effect and makes good use of the PLUS/4 graphics to give the player a feeling of the pleasure and frustration of ten-pin bowling. On immediate benefit of involving a computer is the complete elimination of cheating on the scores. The simulation allows for two players and has kept both myself and others occupied for many hours. Happily use is made of the PLUS/4 software skips mask out the naughty language when playing. A nice one.

Supplier: Tri-Micro Inc., 14072 Stratton Way, Santa Ana. CA 92705, USA.

B.D.

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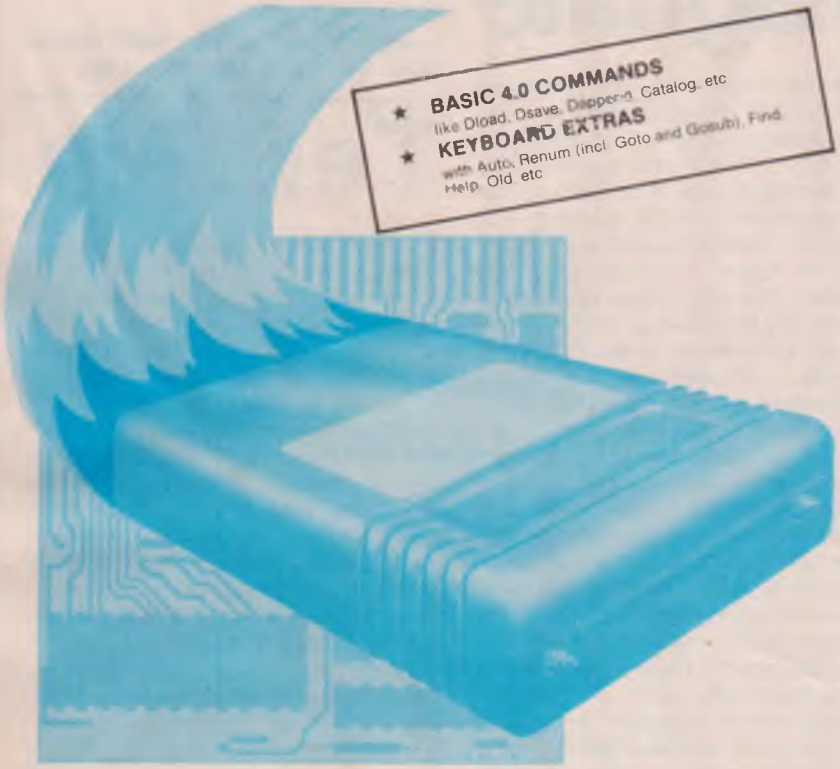

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Adventure!

Welcome again to another journey into the world of adventuring. Did you get Ultima IV? Are you hopelessly stuck? I bet you are, because this latest inthe Ultima series has definately been the best and trickiest of the lot. This month I have taken a close look at it and can reveal a few of its secrets which will make it clearer for you without completely giving the game away. A sort of New Year-New Clues resolution from us to you (if you are the sort of Person that likes to battle on regardless, then don't read the tips, I give you fair warning!). Also there is the rewritten and repackaged Silicon Dreams trilogy from Level 9, a couple of tapes from the Incentive Adventure Writer system and a good look at Activision's Labrynth.

Before all this though I must say that the New Year came and went with a sort of whimper as far as good new adventure software was concerned. Up to now it was always considered to be THE time for releasing the mega game of the Year. Or is it because the complexity and inventiveness of adventures, are simply taking too long to write? Time will tell, but personally I think its all a marketing ploy. They've got finished product, they're just waiting for the right "time" to release them. Come on software houses lets have the goods now!

Adventure News
Sherlock Goes Soft

US Gold is set to release 221b Baker Street which is a 3-d graphics only adventure based on that popular board game of the same name. There are 30, yes folks, 30 cases to solve with additional case disks to follow. Holmes along with Watson, Lestrade and a female detective by the name of Irene Adler, (Remember her in the original? Holmes said she was the only woman he could have loved. She certainly wasn't a 'tee hee!) compete with each other to try and be the first to solve each case from the many clues given in each location on screen. The board game is great fun, lets hope the software is just as good. Its disk only and retails at 14.99

Ket Goes 64

Incentive Software is releasing their famous Ket Trilogy for the 64, but with a difference. Included in the game is a map drawing routine, so you can forget that Pen and Paper, the computer does it for you. There is even a small man with a Pointer to let you know where you are on the map. Great idea. The three adventures are bundled on one tape for £7.95

A Plea for Help

Dear Andy,
Last month I bought the Triple cartridge adventure pack for the C16 by Scott Adams and am stuck on Strange Odessy.

I went outside the scoutship and found the boulder in the cave, how do I read it before blowing it up? What are the goggles for, and what do you do with the alien painting. Also my biggest problem is how to open the maintenance hatch. Thats all I want thanks.
M. Frantzis.

Well, you don't want much do you Mr Franzis? Still, that's what we're here for. The boulder just needs to be blown up. There's nothing to read; the goggles are to be used in the mine. Take no notice of the painting, and to open the hatch you need to pry it open with the metal from the mining colony. A.M.

Dear Andy,
Whilst enjoying your New Adventure Section, at least to start with, both my wife and I were outraged by your crass and ignorant comments about the 'Archers'.

If you find the finest programme on radio so boring, you have no right whatsoever to review the game of the Archers as there is no way you can be objective. You Moss, are dangerous and we, and other Archer's fans, demand an apology.
Larry & Suzanne Viner LONDON

Why? Some people enjoying watching paint dry and you might call that boring, but they wouldn't. I respect your feelings on the 'Archers' and I suggest you stick to just listening to it on the radio as the combined effect of playing the game and listening to the radio would be a permanent cure for insomnia!!! A.M.

Winter Wonderland/Apache Gold
Incentive Software £7.95

Since Gilsoft released The Quill, the number of home produced adventures has soared, and in a remarkably short period of time. The obvious reason is that the Quill is a very user friendly utility, allowing someone who has the ability to write a cracking good yarn, but no programming skill to implement his/her creation on to a computer. Indeed, the number of software houses who have taken on board freelance "quilled" games is testimony to its worth.

It did have its drawbacks though, only two word entry, a limited vocabulary, and the awful "have a nice day" at the end of play. Agreed Gilsoft have now updated their program and now also have a graphics package to add to it, but still there are limitations in use.

There has not really been anything to touch it-up until now. Incentive's Graphic Adventure Creator (GAC) is a very professional program, and scores a few points over the venera-

Adventure!

continued...

ble Quill system. To show this, they have produced a **MEDALLION SERIES** which will release adventures that Incentive reckon to be the best possible using the GAC program.

Two to look at, and first up is Apache Gold, which puts you in the wild west, hunting for the legendary grave of the Apache chief where it is rumoured lies gold gold gold! Its very wittily written, the most important ingredient, and I found it nice and easy to get into. The Parser understands multiple instructions, and also the IT command, which is very handy. For instance if you find a rope tied to a tree, you can type "untie rope and take it north."

Speed however is a minus point for the GAC, it kept me waiting, sometimes up to 20 seconds, for a response to a command. The Quill is instant in that respect. The puzzles are pretty easy and very logical, all in all an entertaining game.

Winter Wonderland is next, and is set in the Himalayas. It chronicles your efforts to find a lost civilisation that has co existed with mankind but in a totally independent manner. The story opens just after you have crash landed your plane in the icy wastes. A cold way to start. Although not as well written as the other game (the location descriptions are a bit sparse) the general feel of the game is quite fair. The graphics in both adventures are simple and colourful, not state of the art, but effective, and you have the option to switch them off if you wish. Priced a little too high for my liking as there is plenty of good budget software around, so about a fiver is more realistic.

Silicon Dreams
Rainbird/Level 9 £14.99

This is a repackaged, reprogrammed (only so far as to include Level 9's new type ahead Parser system) all in one version of the Silicon Dream Trilogy, namely Snowball, Return To Eden and The Worm In Paradise. Rainbird have done a fine job with these classic games, by including a meaty 64 page novella to accompany the software, which does a fabulous job of scene setting for the Player as Kim Kimberly secret agent extrodinaire.

Snowball, one of my all time favourites, is set on a giant space ship transporting sleeping colonists to their new home — the Planet Eden.

Kim is also on board to ensure that all goes according to plan. In case of trouble, Kim would be automatically woken up. Guess what, you are woken up- there's trouble about, and the trouble is sabotage. Snowball is off course and heading on a collision path towards Eden. Some ingenious puzzles abound (my favourite is the ticket machines in the store room) and many many locations. Pete Austin's finest hour as far as I'm concerned.

Return To Eden, continues the tale. You have saved the Snowball from disaster, but due to mangled tapes the crew hold you responsible for the sabotage attempt and sentence you to death! Just managing to escape, you crash land you shuttle on Eden and find a strange world of vegetation and robots. The robots built the City of Enoch to be the home for the colonists, but are not expecting them to arrive so soon, so naturally any ship which lands is considered hostile and will be destroyed. Kim must go to Enoch to let them know that Snowball is friendly and that he is innocent.

Worm In Paradise is set 100 years after Kim's heroic deeds, and this time you play a descendent of the great agent. Enoch has been a paradise to live in, but somethings wrong. What it is, you have to find out.

The three games can be played separately, but its best to play them in sequence to get the right atmosphere. The new type ahead Parser is a joy to use, and I still sit wide eyed at the amount of text Level 9 can cram into their adventures. The trilogy is not new, so if you already have the original copies don't buy this. However if you haven't been Kim Kimberly before, what are you waiting for?

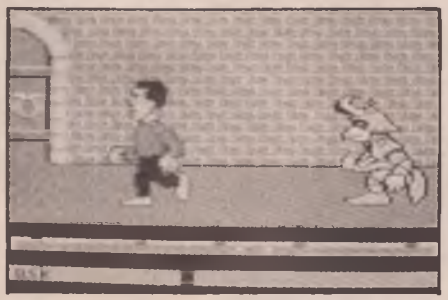
You are on a snowfield by the wreckage of your crashed Cessna light aircraft. You can see a fur coat, a pair of snowshoes. The aircraft radio anounces, "Welcome to Winter Wonderland."
What now?

Honourable Mentions
Bugsy CRL £8.95

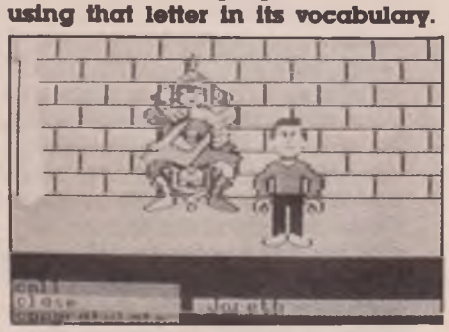
A very funny parody of Chicago gangsters from the St Brides ladies. The hero is a blue rabbit called Bugsy Maroon (groan) who has to work his way up from street urchin, to become a big time hoodlum. The most unusual implementation in the game is a "conversation menu" which lets you choose a variety of phrases to use in conversation. I think its all bunny rabbit, but add this one to your collection, 'cos its fun and shows just what a good Quilled game can do.

Labyrinth Activision £14.99

You've seen the film, haven't you? Now you can play the game, and I can honestly say, hand on heart, its one of the most enjoyable adventures I've played in a long while. The objective is simple, you must defeat Jareth, the Goblin King, in his castle in order to release his power over you. Unfortunately there are two problems here, the first is that the castle is at the heart of a fiendish maze (the labyrinth) the second is that you only have thirteen game hours to do it, otherwise you become his slave forever. As if this isn't enough, along the way you have to solve riddles, work out puzzles, collect useful objects (essential) and use them wisely in order to win.



The game uses a built in command system, so no word typing here, instead there are two 'word wheels' at the bottom of the screen. Just scroll through each wheel until you have the verb/noun you need and press enter. The words are in alphabetical order so if you are at the top end of the scale and need a word at the bottom, just type in the first letter, and the wheel will display the first word using that letter in its vocabulary.



Apart from a small text only section right at the start, Labyrinth is all arcade graphics, and excellent they are too. You can be either a male or female character and choose different colours and names.

The game is devised as lots of little playlets and each part is loaded in separately, so you need to solve one situation in order to proceed further into the maze. Otherwise you will get into a loop situation which is very fustrating, as you have to wait for those repeated sections to load in again and again!

Each playlet has a title like "The Wall Of Hands" or "The Wise Man's Garden" or my favourite "The Bog Of Eternal Stench", fall in that and you'll soon know it!

There are a number of wandering goblins which must be avoided at all costs, failure to do this results in a visit to Prison, never easy to get out of. I can reveal that after many days and nights of screen bashing, choice words and high blood pressure, I have nearly completed it. I'm inside the castle at last and am about to confront Jareth. If next month's adventure pages don't appear on time you know why! A fabulous game, highly addictive and worth every penny.

The Colour of Magic CRL/Delta 4 £8.95

Delta 4 have written an adaptation of Terry Pratchett's extraordinary novel about life on a turtle's back, called Discworld. The main character is a wizard called Rincewind who unfortunately, due to an accident in training school, cannot learn any spells, apart from the one lodged in his brain. Anyway, his task is to guide a four eyed tourist around the place, whilst trying to avoid Death in all its forms, and luggage with legs??? I'll say no more except miss this at your peril. Laugh, I never thought I'd start!

Ultima IV — The Clues

Even the most battle hardened role player can think themselves lucky that the world of Ultima IV is not real, because this latest release from Origin Systems is sixteen times bigger than Ultima III and includes conversation, more magic and more battles than in any other game in its genre. There are hundreds of dungeon chambers, hundreds of characters, dozens of combat screens and weapons of many sizes, ranges and uses.

Its all very well Playing The Quest Of The Avatar (Ultima IV), but getting anywhere towards completing it is another matter entirely. Fear not dear reader, for I have braved the numerous dungeons, fought the many beasts, visited the many towns and even spoken with Lord British himself. I have sought the answers, and have been successful in my quest! The answer lies with me, and only me, as to reveal all will almost certainly put me in grave danger, however keep reading and I will point you in the right direction. And maybe, just maybe in another issue I will reveal some more.

To become an Avatar, is to be enlightened in all eight virtues of the Avatar. This you do, by finding the runes, and meditating at the shrines belonging to each rune. Once you have found all eight, and meditated, then you will become an Avatar and have solved the Quest.

In Brittania there are 4 cities, 11 towns, and 1 ruin. There are clues to be found in each dwelling. Finally to enter the final phase, you need to pass through the gates of Cove and find the dungeon Abyss holding the Bell, Book, and Candle.

Where are the Runes?

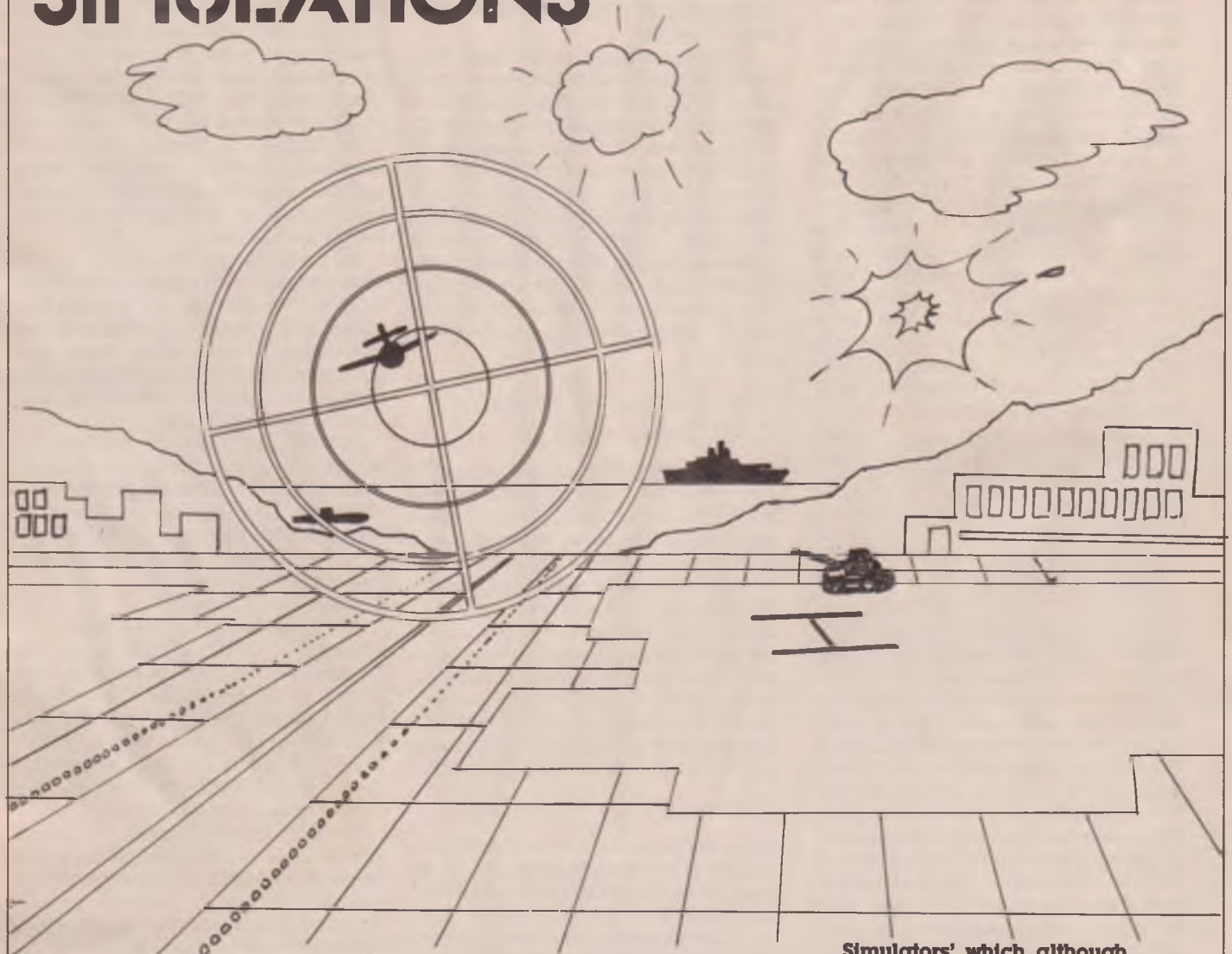
HONESTY is in the nw corner of Moonglow. COMPASSION is in the n.e. corner of Britain, in the inn. JUSTICE is in the jailhouse of Yew. SACRIFICE can be found in Minoc. HONOUR is hidden in Trinsic. SPIRITUALITY is hidden in Lord British's castle and HUMILITY is in the s.e. corner of the village of Paws.

That's it for this month, I haven't had room for some general hints this issue (doing Ultima took all my time up) so next month you can have a double does of help, along with some letters answered (a few choice words there I can tell you) and a review or two, maybe three. If you have any comments, write to me at CCI. Bye for now.

Adventure!

See you next month!

SIMULATIONS



Super Huey II (U.S. Gold/Cosmi)

Ace of Aces (U.S. Gold/Access)

Flight simulators tend to come in two categories. The first is an out and out reproduction of the aircrafts' cockpit, including every dial, switch, gauge and warning light, a 50 page manual (at least) and enough of an outside cockpit view as to make the whole thing look as realistic as possible, within the confines of the hardware available. The most classic example of this genre is FLIGHT SIMULATOR II from Sub Logic. Not only do you get all that electronic wizardry in the package, but also, detailed maps showing the many airports available to you across the whole of the American land mass along with two pilot manuals. The initial disc just concentrates on the Chicago area, but you can obtain additional scenery disks depicting the rest of the U.S.A. including New York and the Statue of Liberty which can be flown around, up and over. The aircraft in question is a Piper Cheroukee single engine job (the sort in which hard working executives pop back and forth). There are two maps which come with the package letting you plot your course across the country from beacon to beacon. If you take your flying seriously, this is the program to get as the pilot manuals take you through actual lessons, starting with simply taking off and landing and finishing with some very complicated manouveres indeed. Its expensive, around £40, but for the dedicated enthusiastic its an essential purchase and there's an AMIGA version out we hear is sensational. Into a second category falls what I would term 'Action Simulators', which, although representing flying in its truest sense, also give the player missions to perform or rescues to undertake. Now, obviously to incorporate these features in a simulator, something else has to go because after all 64k is only 64k, so generally speaking it's the amount of cockpit detail and functions of the specific aircraft that are cut down. The 'feel' of flight is usually still maintained and certainly the action simulators have a wider appeal as they portray a more exciting scenario than just taking off, flying around and landing again.

However, there are action simulators and action simulators and some are just zip zap shoot 'em ups that just need a pull back on the joystick to get you up, up and away and precious little else except finger on the fire button stuff. Then again, there are some that genuinely try to give a good account of both sides of the runway so to speak.

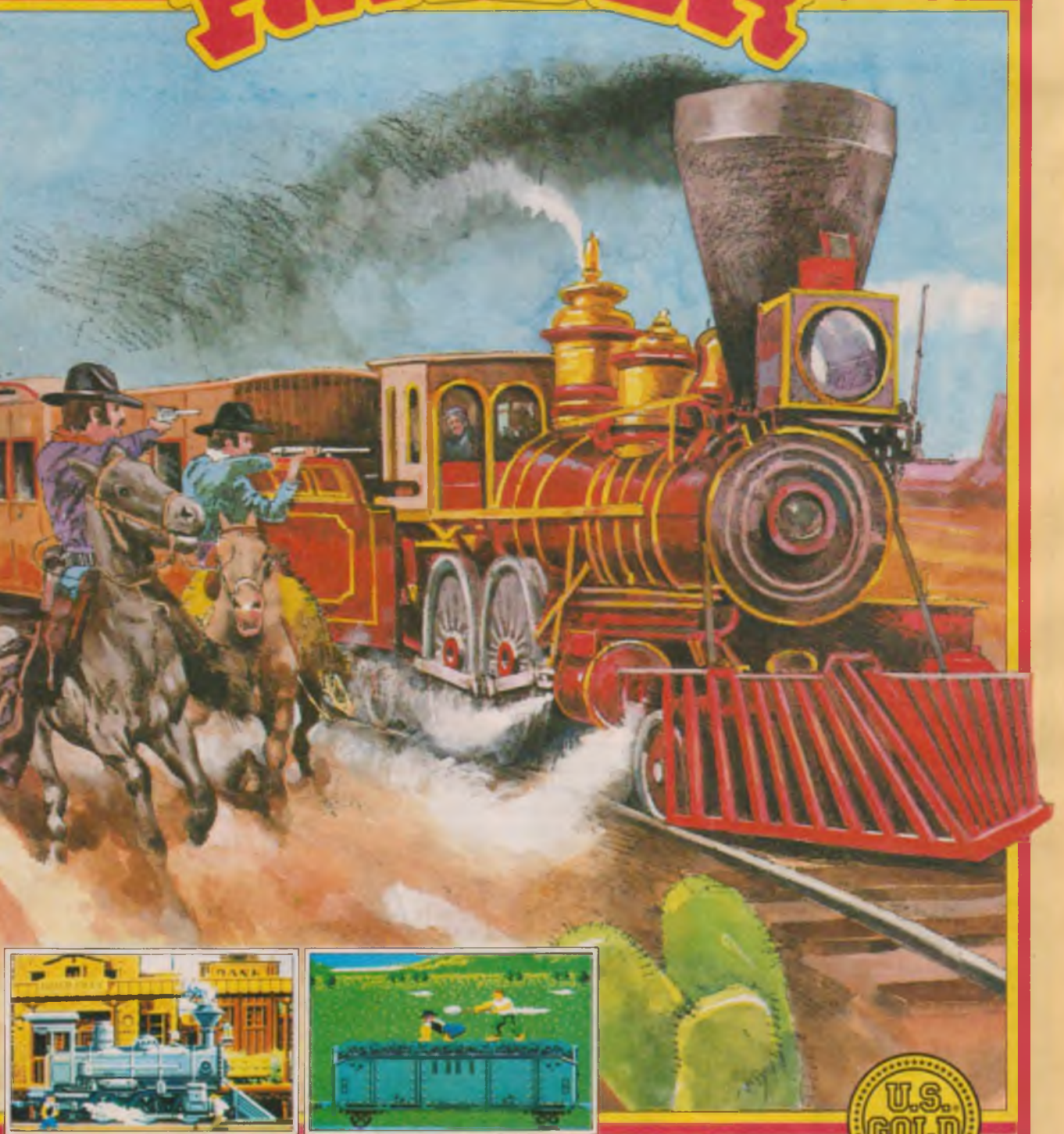
→

THE COIN-OP SENSATION FROM DATA EAST...

DATA EAST

DATA EAST

EXPRESS RAIDER



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Super Huey II and Ace of Aces are two flight games which do just that. They look very very good, feel incredibly lifelike, need 100% concentration and give you some shooting to do, to soothe the savage beast.

Let's take a closer look at both, starting with Super Huey II. This game is a sequel to the original release of a year back bearing the same name and deals with a helicopter of awesome power officially named the UH2X (Huey for short) which can be called into action to deal with any disaster or mission of vital importance to the world as we know it. It has machine guns, heat seeking missiles and CO2 gas on board so, obviously, with all this hi-tech hardware available it wouldn't do to just fly around all day taking tourists on sight seeing trips around the bay. No, fortunately, you are called upon to undertake a series of six no-nonsense missions. ***RENEGADE*** — which is a seek and destroy scenario about a 'Huey' clone chopper whose pilot has gone berserk and is out to destroy all your bases. ***BRUSH FIRE*** puts you out in the Californian hills dropping CO2 foam on forest fires. ***OIL FIRE*** substitute forests for Mediterranean oil rigs (didn't know there were any) ***GULF OF TERROR*** puts you on terrorist alert in the Med searching for gunboats and subs to blow away. ***ARCTIC RESCUE*** gives you blizzard conditions to find some scientists trapped in the crevices on the Pole. And finally ***BERMUDA TRIANGLE*** is a very strange scenario in the Devils Triangle, including some alien spaceships and hurricane weather. There are some great sonic F/X in this game — the sounds of the chopper blades are incredibly lifelike, and there is a smattering of electronic speech.

Super Huey II is a very good flight simulator too, and the accompanying manual goes into great detail about getting the pitch level right in relation to the engine and rotor speed. It is quite a tricky business and I found myself fighting to keep the chopper at the right altitude every time I increased speed, so, you need to 'gen' up on what's what before you start, otherwise it'll be a watery grave that will welcome you.

We are very impressed with the wealth of detail available to the pilot in this program (the navigation system is mind-bogglingly complicated) and I enjoyed the game immensely. At £9.95 it's excellent value and is a good introduction to computer flying.

Ace of Aces puts you in the hot seat of a Mosquito plane during World War II. It is also a sequel to [illegible] called Dam Busters [illegible] a direct [illegible] in playability. Dam Busters had too many [illegible] too many things to do to fly the damn (no pun intended) aircraft and getting the bouncing bombs on target was incredibly difficult.

Ace of Aces is a lot easier to play and gives you a training mode to get the feel of the plane before attempting the missions. There are some nice graphics of you flying over clouds and you do get side views looking out of both sides of the plane (the propellor effects are nicely done).

The missions can be undertaken all in one go (succeed and you earn the title Ace of Aces) or separately and involve intercepting Bombers and V.I's on their way to London, trains full of POWs that need freedom and a Boat pen full of subs. You get a choice of crew views, from the Pilot, the Bombardier (you get to look through the bomb bay to target your bombs onto the enemy below) and the navigator (which gives you your bearings and weather maps, etc.) There is also an engineer's view which controls the engines and fire extinguishers.

The game is let down by not having to actually take off or land. This is done by the novel use of showing a series of old style 'photos' depicting our brave lads in their helmets and scarves getting in their planes and rolling down the runway. Cleverly done, but nonetheless leaves you feeling a bit hard done by. Ace of Aces really might be considered suitable for a younger audience, but as it is certainly graphically superb and very entertaining, that won't stop me or you playing it not once, but many times.

Of the two, Super Huey is the business if it's a true flight simulator 'action' game you want. Ace of Aces is a really fun shoot'em up that gives you an authentic feeling of being one of the lads against the Boche and succeeds admirably as an easy and entertaining intro into flying your Commodore.

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MEGA REVIEW

CCI Rating C64

CRISP

BLOOD & GUTS

Blood and Guts — American Action

Yuk! I hated this game even before I saw it! Why the hell do we have to tear each other to pieces just to fill the pockets of a few barbaric (I use the word advisedly in this case) games writers? In the publicity they threw around words like cruel, brutal, pitiless, ruthless. Not even shooting up aliens or zoids but getting down to real violence, to our own world and its inhabitants — including cats!

But when I got to it 'Blood and Guts' wasn't half as bad as I thought. In fact I quite liked it. Even though some of the so called sports were hardly the sort of thing you'd recommend to a maiden aunt. Human Hit, Armwreck — and I kid you not — 'Cat Throwing' are not likely to turn Aunty on (Don't you touch my pussy, you nasty man!).

In fact Blood 'n Guts is a quite imaginative version of our old friend the Decathlon, (though Daley Thompson would be better off staying out of this one) with real Viking-style toughies like Nop, Hawk, Dog and Knorr (isn't he a soup?) fighting it out amongst themselves.

There is a fair measure of action strategy and skill involved and it does have some nifty graphics with clever animation and a lively combination of sound and music.

Blood 'n Guts is now topping the Swedish charts and I'm not surprised. It's surprisingly addictive and I found eventually that I'd got over my inhibitions and was shamefacedly enjoying Axe-throwing and Tower Jumping.

American Action — creators of Soldier One and Captured — are showing an interesting turn of originality and for sports (?) like Ale Drinking, Tug of War, Pole Fight and Rock Rolling, they've come up with ideas that are at least so far untouched by anyone else.

By the way, the game is marked as suitable only for 15 year olds and over. Over 15 you are apparently allowed to throw the cat around (16? Yes, you can touch my pussy!)

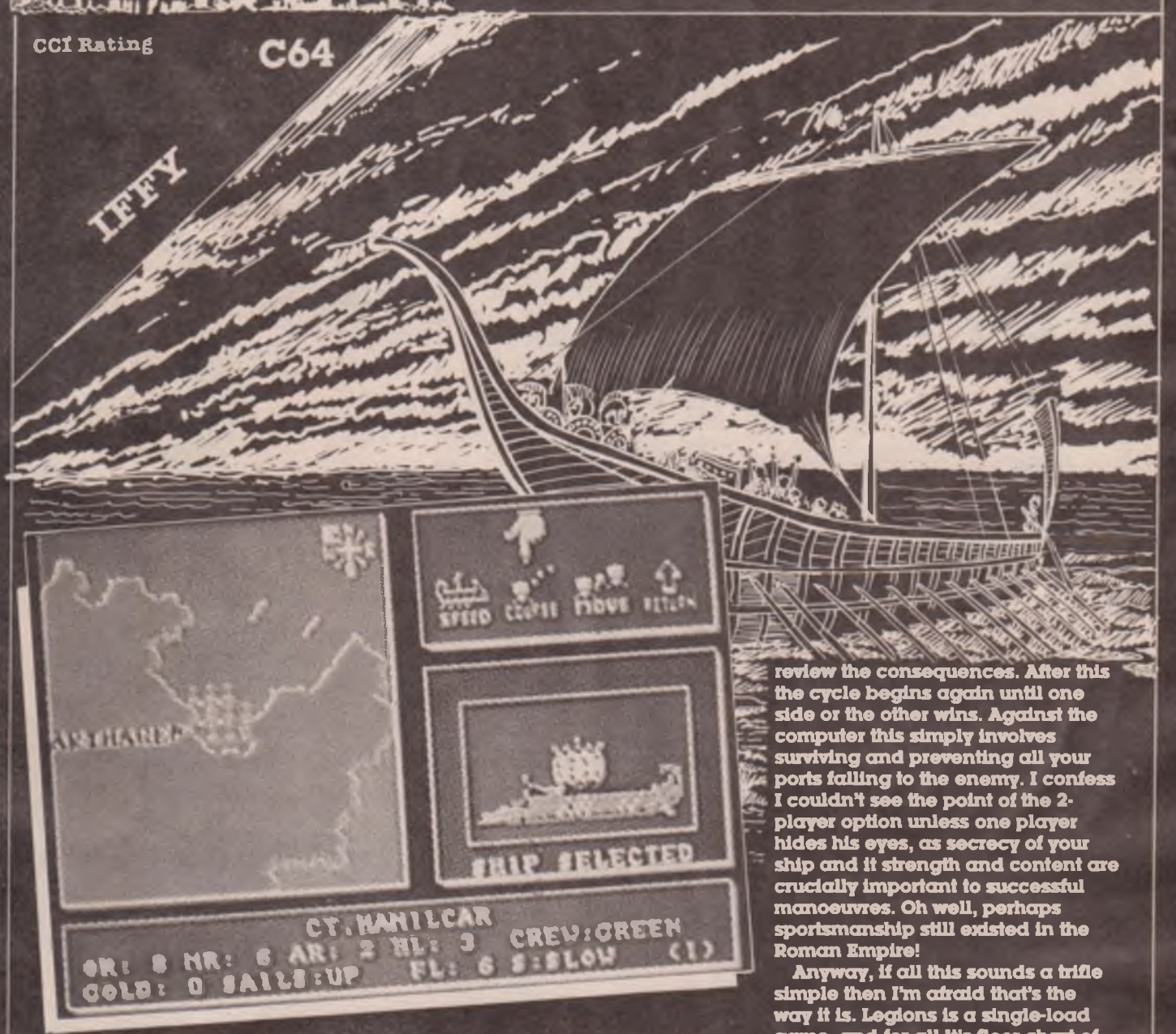
Reluctantly I have to say 'Blood 'n Guts is well worth its 'Crisp'. But with the inventiveness, obvious hard work and thought that's gone into American Action's recent releases, why don't they come up with something in their own words, less 'barbarous'?

Price: £9.95 (c) £14.95 (d)
Graphics: ★★★
Sound: ★★★
Playability: ★★★
CCI Rating: Crisp

MEGAREVIEW

CCI Rating C64

IFFY



Legions of Death by Lothlorien

Another complex and well-documented wargame from Lothlorien, the U.K. masters of the genre and the one label that seems to have survived a takeover from Argus. Once again this is an icon driven game, perhaps lacking a bit of detail and the added-value packaging we've come to expect from, say, SSI, but on the whole a well-researched and slick product. The action falls not so much into historical phases, as is the norm these days, as levels of involvement and you can make the game as complex as you wish by defining the victory conditions before you start playing. Because of the nature of the subject, the action is primarily sea-based with all the major tactics involving the capture and protection of major sea-ports.

You start the game with 1000 gold pieces to buy ships and equip your fleet. There are 8 types of ship, each able to hold different quantities of men, gold and equipment. Obviously the costs of all these items differs, and some are more useful in battle conditions than others. Beware, however, of overstocking your ships before you learn how to successfully engage your opponent or you will lose heavily in early skirmishes. I mention this because I lost my whole ship several times before I managed to discover where the dangers were.

All units are displayed on a scrolling map of the central Mediterranean, with enemy ships highlighted as they approach. You select your targets to defend or attack, make your moves, and then review the consequences. After this the cycle begins again until one side or the other wins. Against the computer this simply involves surviving and preventing all your ports falling to the enemy. I confess I couldn't see the point of the 2-player option unless one player hides his eyes, as secrecy of your ship and it strength and content are crucially important to successful manoeuvres. Oh well, perhaps sportsmanship still existed in the Roman Empire!

Anyway, if all this sounds a trifle simple then I'm afraid that's the way it is. Legions is a single-load game, and for all it's floor-chart of commands and icons, it turns out to be a repetitive and limiting exercise. The icons are fiddly, most of the text unreadable, and you will find controlling all the ships individually pretty monotonous. There is simply none of the options, variety or challenge that makes, say, Vietnam such an addictive game. These days the odd flash of gunfire, or scrolling description of the casualties, are almost compulsory in a wargame that aims to attract a large market. Legions may be well put together but it is only barely adequate by modern standards.

T.M.

Price: £9.95
Graphics: ★★★
Sound: N/A
Playability: ★★
Rating: Iffy

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MEGA REVIEW

CCI Rating C64

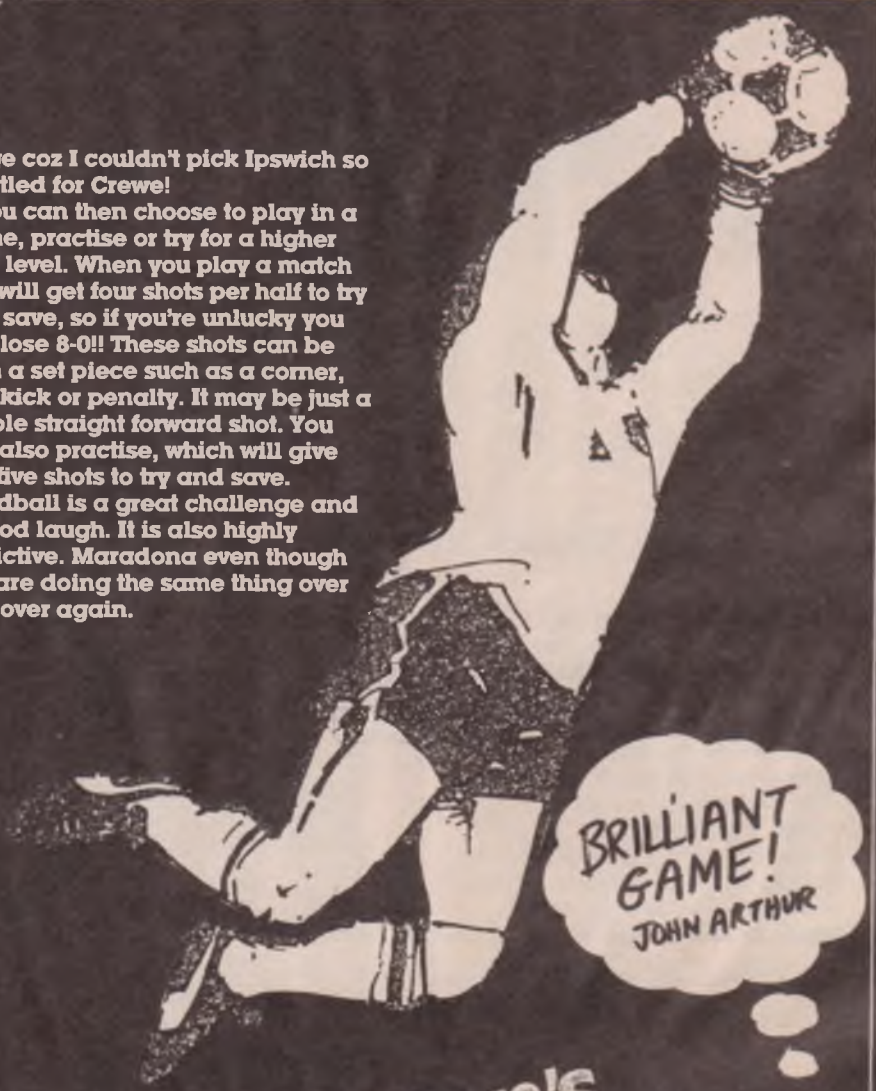
MEGA

Peter Shilton's Handball Maradona

Watch out Peter Shilton, coz here comes John Arther — a superb young keeper from Crawley Town, ready, willing and able to take your England spot anywhere, anytime, any place (sounds more like a Martini advert!).

O.K. right hands up (sorry!) all those football supporters who think Diego Maradona is a dirty little cheat? (every hand in England is raised). Well here's your chance to get your own back. In Peter Shilton's football game you play the part of your team's goalkeeper. You can choose from a number of teams including Southampton, Liverpool, Man Utd and Crewe. I thought I was hard done by at the team choosing stage coz I couldn't pick Ipswich so I settled for Crewe!

You can then choose to play in a game, practise or try for a higher skill level. When you play a match you will get four shots per half to try and save, so if you're unlucky you can lose 8-0!! These shots can be from a set piece such as a corner, free kick or penalty. It may be just a simple straight forward shot. You can also practise, which will give you five shots to try and save. Handball is a great challenge and a good laugh. It is also highly addictive. Maradona even though you are doing the same thing over and over again.



Peter Shilton's "Handball Maradona"

There is pre-programmed speech which is very good. It says "Peter Shilton's Handball Maradona" which is by far the best speech I've ever heard from my 64. It also says Goal and Save which are also pretty niffy. The graphics are small but they are very, very smooth and detailed. They move well and the diving of the goalie is very effective. One thing I thought a shame was that you do not get the chance to play on pitch, only in goal, but that didn't dampen my view of this brilliant game.

Price: £6.95
Graphics: ★★★★
Sound (speech): ★★★★
Playability: ★★★★
CCI Rating: Mega

MEGAREVIEW

CCI Rating C64

CRISP

X29 Fighter Mission by Midas

You are flying the very latest in fighter planes. It's the very sophisticated X29 fighter. It's about as sophisticated as my big toe. You are in air to air and air to ground combat with the enemy jets and helicopter. The jets are phantoms and the helicopters are the cobra range. Your view of the outside world is from the cockpit of your fighter. You have three on board computers to help you along. When these computersare destroyed then so are the passengers and the plane. Your ultimate task in X29 is to destroy the cloaking beacons and eventually destroy the enemy headquarters. You have an up to date machine gun fitted to the fighter and you use this to defend yourself against the enemy fighters.

The graphics of the enemy fighter in X29 are pretty good and quite well detailed. I'm afraid, though, that the game is a little basic by today's highest standards and it could get boring as there is not too much going on. If you are a fan of blowing planes out of the sky then this game is for you, and for £2.99 you haven't got a lot to lose. Try it and see.

Price: £2.99
Graphics: ★ ★
Sound: ★
Playability: ★ ★
CCI Rating: Crisp

C64

DODGY

Judge Dredd by Melbourne House

Judge Dredd is the second appearance of a '2000 A.D.' character in a computer game, and no doubt he was expected to perform a bit better than Strontium Dog (Quicksilver). I was pleased to see the same loading screen I'd glimpsed on Compunet many moons ago, and some atmospheric music by Neil Brennan, but here my pleasure ended. The instructions are some of the worst I've seen; a perfect example of someone who's obviously into the comic and totally familiar with the fictitious world of his Hero, forgetting that most of us are here to play a game, not catch up on comic-book mythology. I find instructions without good screen-shots or illustrations a real cop-out (forgive the pun) and Judge Dredd suffers especially from this absense. As far as I can gather you are supposed to patrol a city looking for crimes and dealing with the 'perps' appropriately. A 'perp', by the way, is slang for an offender.

The first screen looks more than a little like Ghostbusters, with a street-plan of the city and the various crimes in occurrence cropping up as icons above their locations. Crimes vary in seriousness from petty theft tomurder, but they all count against your record if they are not dealt with. You have differing levels of response, from 'halt' (merely vocal) to 'Kill' (purely lethal) and it obviously helps not to over-react.

In keeping with the curious morality of the game, however, shooting shoplifters dead is significantly less serious than letting them get away. I'm sure this alone will assure the success of this game in America, where such a system apparently already operates.

Once you've selected the crime you want to deal with first, you press fire and you are transported to the location. Here you have a succession of simple 'Mission Elevator' type screens, linking the various locations and giving you the chance to shoot the hell out of all and sundry. You may move about the whole city like this but it's safer to do it by icon, so simply deal with the crime you've come to handle and return to the first screen. Action is fast, repetitive and largely pointless — although the perp is pointed out to you, almost all the sprites will try and club, bit or shoot you so I found it easiest to kill first and think later. The city seemed to have several layers, from sewer to side-street, and you move between them either by lift or dropping through holes in the floor. Other complications include conveyor belts, loss of amunition, and loss of your Judge's power if you fail to control your precinct.

Judge Dredd isn't a derivative and weak as it initially looks. There is actually quite a variety of weapons, approaches and dangers to deal with, and the zapping is quite good for a while. It is, however, graphically primitive and lacking in the depth and addictiveness we've come to expect from Melbourne House. The sad truth is that these days there are budget games as good as this. T.M.

Price: £9.95
Graphics: ★★
Sound: ★★
Playability: ★★★
Rating: Dodgy

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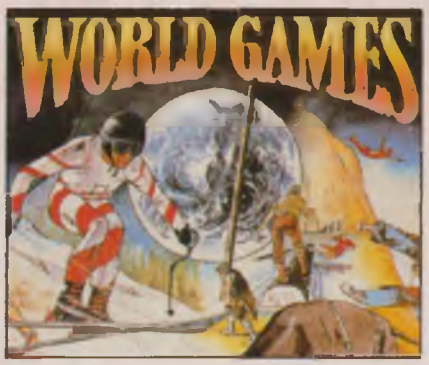

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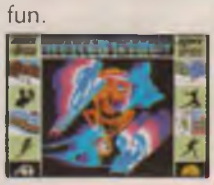
5. Entries altered, illegible or not completed in accordance with the rules of entry requirements will be disqualified.
6. All entries must be on an official entry form.
7. 'How to enter' forms part of the rules. All entries become the property of U.S. Gold and cannot be returned.
8. It is a condition of entry that the competitors agree to be bound over by the rules.
9. The closing date for receipt of all entries is 31st March 1987. The prizewinners will be notified by post. The names of the winners will be available to those sending a S.A.E. marked 'World Games Competition' to the address below.
10. The judges' decision is final and no correspondence will be entered into.
11. The competition entry should consist of six answered questions, three on the entry form and three included in the packaging of the game and are to be forwarded to:



RUNNERS-UP PRIZES

WORLD GAMES™ Competition

RUNNERS-UP PRIZES

Complete the questions and caption below together with the completed questions from the packaging and return to the address below. All entries must be received no later than 31st March 1987

Question 1. How many hills is Rome built on .....

Question 2. In what year was the Roman invasion of Britain .....

Question 3. Who painted the renowned ceiling of the Sistine Chapel .....

Caption (complete in not more than 25 words) Rome is an appropriate venue for the World Games because

.....

.....

Name ..... Age ..... Address .....

.....

Tel: ..... My computer is a .....

U.S. Gold Ltd., Units 2/3 Holford Way, Holford, Birmingham B6 7AX. Tel: 021 356 3388

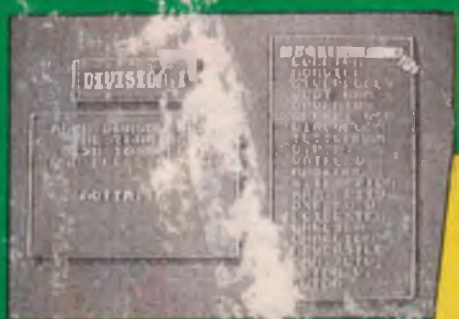
MEGA REVIEW

CCI Rating **C64**

FOOTBALLER of THE YEAR!

Footballer Of The Year — Gremlin

Do you think you've got what it takes to beat the likes of Bryan Robson, Ian Rush and Peter Shilton to the top and win the award of player of the year? If so then waste no time and load up this hot new release from Gremlin. You can choose to play for any club in the English league from Liverpool to Crewe! Your main aim is to become the best player the modern world has ever seen. You can also get to play for your chosen national team. When the game has loaded, you are presented with a very slick icon driven menu. You can look at the status of your current team, your own personal status, you can buy incident cards which are like the chance card in Monopoly. You can gain a great deal of money but you can also lose a fortune. You can also buy a transfer card. A scout will watch you play and then say if he's interested in you. The other icons allow you to save the game, quit the game and play the matches in the game you automatically play but you don't have any influence of scoring unless you use one of your goal cards, (of which you get the game with ten), but additional cards can be bought. If you don't use a card you are told what it is via the teleprinter. Used in "Grandstand" you play a goal card you will either have to try and beat the defenders and score, or take a penalty. At the end of the arcade section you will be told the final score and how many goals you scored. The results of Div 1 can be a bit silly such as 5-5 draws and a defeat of 8-6! Apart from that annoying factor it's a superbly additive game that should appeal to everyone, not only football lovers. The graphics are large and chunky and do their job pretty well. There is a continuous (!?) tune that gets a bit tiring. Overall a very, very good game.



Price: £9.95
Graphics: ★★★
Sound: ★★
Playability: ★★★★
CCI Rating: Mega

martech....
LIVE THE GAME!

MEGAREVIEW

CCI Rating C64

CRISP

DESTROYER!

Destroyer by Epyx

Epyx must be turning into yet another embarrassment for U.S. Gold. Like Ultimate, no sooner were they signed up than they stopped producing exceptional software — Move Monster, Hot Wheels and Super Cycle have all failed to set the world alight and World Games, for all we know, could have been written last year as it shows no significant advancement on the winter/summer games formula. Anyway, Destroyer arrived in a hush of publicity and I must say it's a very curious package indeed.

Firstly it's vast; not really a simulation — something as big as a Destroyer is never one man's sole responsibility — but highly detailed and complex all the same. You have 7 missions to choose from, each one using a different aspect of the ship's defensive and offensive capabilities — these range from Subhunter to a full scale Rescue and between them there's plenty of variety (a rarity in itself for a simulation).

The ship has several stations, corresponding to the control areas of a real Destroyer. Each one is accessed separately from disk and put up on screen as a detailed graphic display controlled from joystick or keyboard. Obviously certain areas of control double up (i.e. there is a Navigation screen but you can make course adjustments from several areas of the ship) and with the cluttered nature of all screen displays it soon becomes hard to recall which switches or adjustments where made from which station. Worst of all is the Bridge; here major offensive stations can be activated and status reports can be summoned, but the succession of switches and tickertape messages soon confuse the eye. Other stations, in order of difficulty, are Sonar, Depth Charges, Guns (fore and aft), Anti-Aircraft (port and starboard), Torpedoes (port and starboard). Observation, Radar and Navigation. Each one is well documented but it's obviously the co-ordination of them all that leads to success, and this skill is hard enough without the frustrating pauses while the disk accesses each station.

Destroyer is a package that won't appeal to everyone. While having arcade elements (the Torpedo and Ack-Ack screens, for instance) it's not really fast enough to please the zappers and the sound is by and large poor. It's too diverse to be a good simulation, and there's not enough real strategy to make it a Wargame. For all that it's a highly professional package and well worth owning if you have the patience to master it. T.M.

Price: £14.99
Graphics: ★★★
Sound: ★
Playability: ★★★
Rating: Crisp

COMMODORE plus-4/C16

PHOTON LOAD — FAST LOAD AND SAVE

Have you ever wasted time waiting for your programs to load or save? This excellent program will make a real difference to your computer. PHOTON LOAD the new cassette operating system loads in seconds and allows you to load and save your programs at about TEN times the speed of a normal load or save. Two additional Basic commands make this extremely easy to use. Why spend money on a disc drive when you can load and save this fast. Features such as sliped screen loading and an audio warning when loading is complete assure you loading saving is going to plan (unlike the Commodore system!). A well designed Cassette loading and saving system - once you hae one you won't want to be without one!
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Excellent value - Cassette £7.95
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BLACK CAT — CASSETTE CONVERTER

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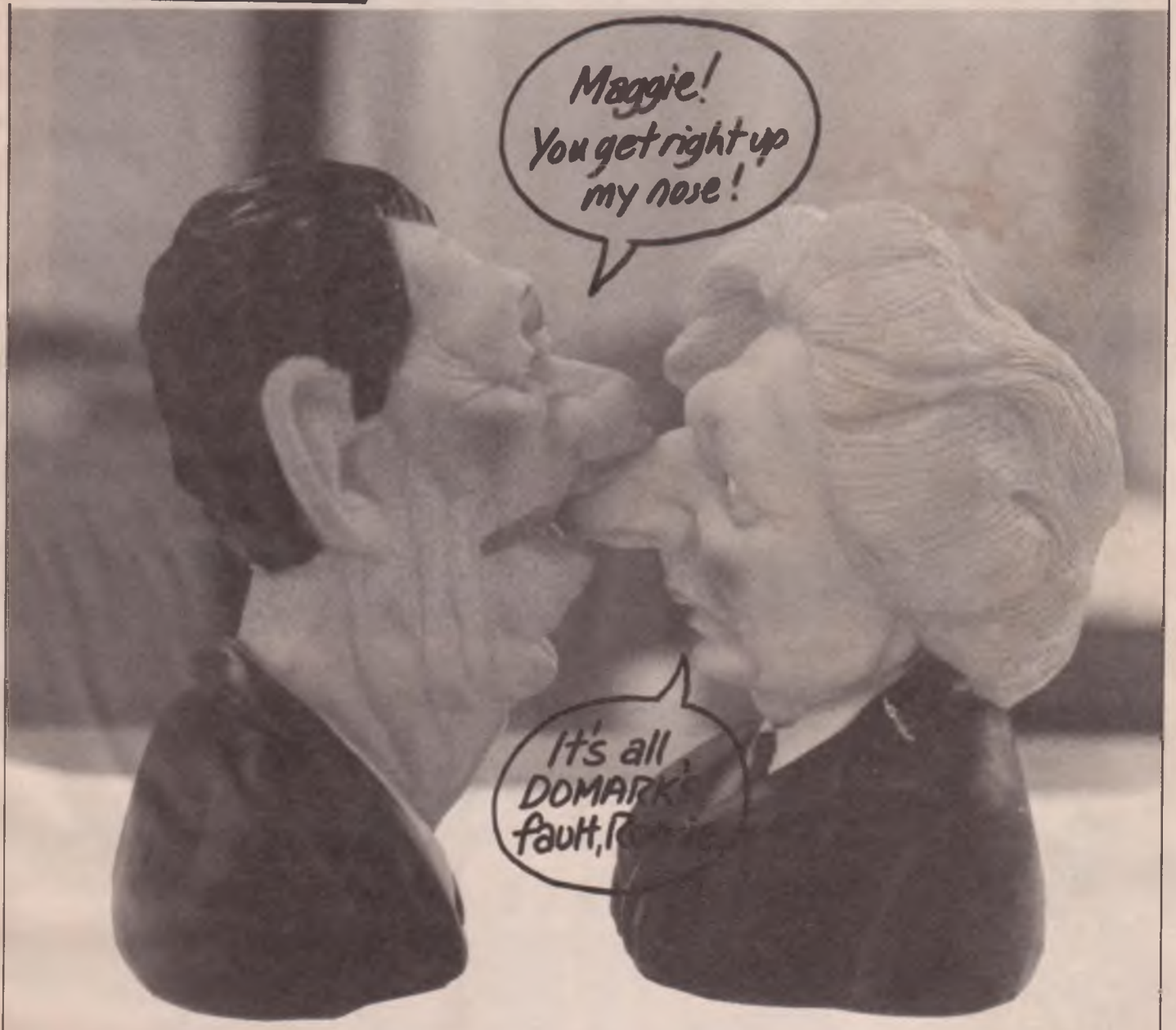
Competitions

SPLIT PERSONALITIES!!!!



Rancid Ronnie **Meaty Maggie**

Four very special prizes are offered in this competition . . . squeaky toys of your favourite politicians (supposedly for your pets to chew, but we know how inventive CCI readers are!) Maggie, Ronnie, Neil and David are up for adoption, so if you think you could offer them a home, answer these questions:

Name these well known politicians:

1. **Which Dickie was tricky**
2. **Who is the Ferrous Female**
3. **Who left Manila in a hurry**
4. **Name one American who Speakes (well actually he doesn't anymore)**
5. **Which actor politician co-starred with a chimp? (And who was the better actor?)**

Answers on a postcard to: Split Personalities Competition, CCI, 40 Bowling Green Lane, London EC1R 0NE.
Closing date: April 15th.

TOP TWENTY

Our February issue "Game of the Month", "Future Knight" shoots straight into the C64 chart at No. 4. On the C16 front, Speed King finally makes it to No. 1 after 3 months in our charts.

C64

	GAME TITLE	COMPANY		Price (£)	Rating
1	Gauntlet	US Gold	★	9.95	T.B.A.
2	Escape from Singes Castle	Software Projects	★	9.95	T.B.A.
3	World Games	US Gold	→←	9.95	Crisp
4	Future Knight	Gremlin	★	9.95	Awesome
5	Cobra	Ocean	★	8.95	T.B.A.
6	Space Harrier	Elite	★	9.95	T.B.A.
7	Ace of Aces	US Gold	→←	9.99	Mega
8	Uridium/Paradroid	Hewson	★	9.95	Crisp
9	Flash Gordon	Mad Games	★	2.99	Crisp
10	Future Knight	Gremlin	★	9.95	Awesome

C16

1	Speed King	Mastertronics	↑	1.99	Crisp
2	Winter Events	Anco	★	7.95	Awesome
3	Powerball	Mastertronics	↑	1.99	Crisp
4	Computer Hits 10 Vol. 3	Beau Jolly	★	9.95	T.B.A.
5	Video Meanies	Mastertonics	↑	1.99	Iffy
6	Way of the Exploding Fist	Melbourne House	★	7.95	Awesome
7	Reach For The Sky	Gremlin	★	6.99	Crisp
8	Yie Ar King Fu	Imagine		7.99	Crisp
9	Ace	Cascade	★	10.99	Mega
10	Video Poker	Mastertronics	★	1.99	T.B.A.

★ NEW ENTRY

Compiled by CCI from leading distributors

Battalion Commander

US Gold.

Ian Waugh plays soliders and submits this strategic report on a mystery link between Battalion Commander and Combat Leader.

Battalion Commander is a game of modern tank warfare where you pit your wits against the logic of the computer. It is extremely complex although it need not be difficult to play. The battle is waged over 12.8 kilometers of basically green terrain which scrolls up and down over four or five screens. Movement takes place in real-time, that is the enemy doesn't wait for you to move, it just gets on with the job of wiping you out.

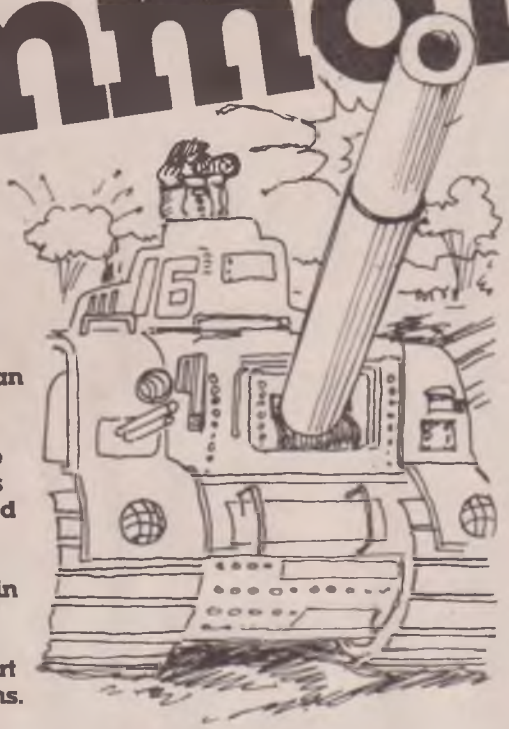
You give orders to your units using two keypresses. The first specifies the unit and the second gives the order. For example, A refers to Company A, B refers to Company B, etc. Each company can be further subdivided into 6 platoons of which you can take independant command and there is also the Battalion Headquarters which is where you are located and you lose big points if this gets blown up — as well as suffering shell shock and a winning a stay in MASH. You also have an FSO (Fire Support Officer) who takes care of your commands to give fire support to units and provide smoke screens. There are engineering, scout, mortar, infantry and anti-tank platoons.

The second keypress specifies your order. This can be moved to a given position, fire at will, give support fire, provide a smoke screen, establish or remove a bridge, dig in and mount and dismount the infantry.

You move a cursor around the board with a joystick or CTRL and the I, J K and M keys. This can be used to show where you want a unit to move to or to indicate a target to fire at. As the screen can be quite full of little tanks, trucks and men, positioning the cursor over a unit — friendly and enemy — will, quite usefully, give details about it and pressing the fire button will show which way it is facing.

There are five basic scenarios. The 'Novice' — 'levels' gets you used to the system and the other scenarios let you select the nationality of the opposing sides, determine the relative strength of the units and select one of 40 terrain maps.

As you can see there are a lot of



options but the mechanics are fairly simple. The trouble is, the computer can do its sums faster than you and you really need to think of some good tactics to outwit it. The game system makes excellent use of the computer; it is not just a computerised board game, in fact it is one of the most interesting — and fun — wargames around.

If, as you read this, you experience a sense of *deja vu* be assured, you're not psychic. US Gold have also released a game called Combat Leader and sometime ago I actually bought (yes, for money — that strikes hard at the pocket of a software reviewer!) a copy marked 'Limited Edition £1.99'. Both games were designed by the same guy, David Hille, and it soon became clear that Battalion Commander is not just a dead ringer of Combat Leader, but a souped-up version of it.

Lots of gripes I had about Combat Leader have been corrected in Battalion Commander, eg.in Combat Leader the map and units were all green (talk about camouflage!) and the scoring system was more ambiguous. Combat Leader did, however, have a design-your-own-game option and included weapon ratings so you could balance one side against the other. It also had some rather good designer notes should you fancy writing a similar game yourself.

Now, it's okay to release updated and rehashed versions of a program but US Gold should inform potential buyers of how close Battalion Commander is to Combat Leader lest the unwary wargamer buy both.

There is no doubt, Battalion Commander is the better game in terms of layout and execution but if you have Combat Leader it's doubtful whether you'd also want to buy Battalion Commander, especially at full price.

If you can afford Battalion Commander then buy it,otherwise try to get a copy of Combat Leader. If you can't, buy Battalion Commander anyway. Okay men, let's go over the hill just one more time and show those Ruskies we mean business!

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2. Mickey Mouse
3. A certain Tea Party
4. Pamela Barnes-Ewing-Barnes-Ewing
5. The Statute of Liberty

Answers on a postcard to Super Sunday competition (address below), to reach us by April 15th.

WIN!

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1. A storage area
2. A CCI review amongst these pages
3. A man in the water
4. A domestic appliance

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Postcards to reach us by April 15th.

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WIN!

AVENGER T SHIRTS

This month we have some mega Gremlin Avenger T shirts to give away to 25 lucky readers in this simple competition. Don't forget to tell us whether you need a small, medium, large or extra large size as we're not telepathic (apart from the Editor of course).
Answer these questions about Gremlin.

1. Name Gremlin's managing director
2. Name their first big success
3. Name a Gremlin game with an animal in the title
4. To which game is Avenger the follow up?

(Hint: You can find all the answers in the CCI December '86 issue)
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Closing date: April 15th

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MEGA REVIEW

CCI Rating C64

IFFY

REDMAX

Red Max — Code Masters

You and your crew are drifting aimlessly through space and are quite happily piling up the zed's. You are totally unaware, however, that throughout your complex the death lords are planting many fission mines. Your computer suddenly gives an earplecing squeal to alert you that there's and intruder in your midst. You awake with a start and your VDU screen gives you your mission details.

Firstly you must de-activate all 27 fission mines, then turn on the 8 back up Nuke-Core cooling system, shut down power plants then go and reanimate the other 9 members of your crew. Sounds easy dont it? (Is that all? Ed) a pleasant way to spend the next fortnight!

You start off on a moon-like landscape and you are perched on a motorbike. You must ride around avoiding the laser fences and other various objects to collect the 27 fission mines. If you ask me there are far too many and it's so hard, I think, that it gets a mite boring very quickly. Red Max takes quite a long time to load but there is a pretty loading screen to keep you amused. The graphics in the game are pretty weedy, but quite detailed. Red Max is very colourful and really pretty good, although it might get on your nerves after a long while.

Not my idea of a great game but OK for those who enjoy a challenge. Its certainly got its attractions. And for £1.99...

Price: £1.99
Graphics: ★★★
Sound: ★★
Playability: ★★★
CCI Rating: Iffy

CCI Rating C64

DODGY

ELECTRIX

Electrix — Players

Why oh why can't people leave things alone? If they did then I wouldn't have to be playing this trash. Vandals have damaged the Los Angeles power station and the electricity is slowly running out. You are the poor so an'so who has to risk life and limb to repair the broken lines. When you re-connect all the loose lines the city can return to normal. To get Bonus points you must collect the electrical hardware that has been left underground. Beware of the moving components, otherwise they will turn you to a piece of toast in no time at all.

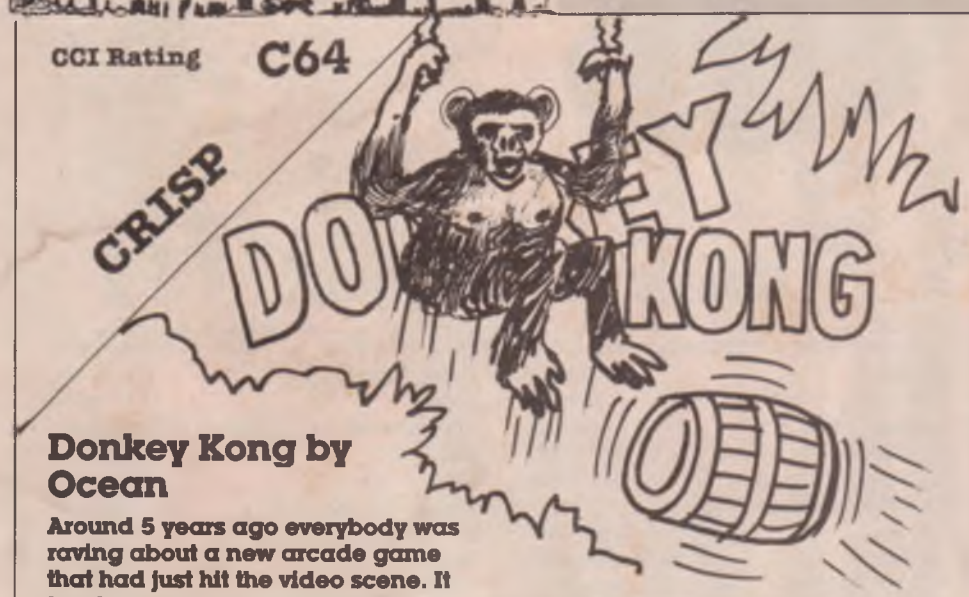
Electrix is a very simple kind of platform game, it is very primitive by today's standards. If this game had been released two years ago then I might have liked it a bit more. It's a good job it's only cheap 'coz you might end up using it as a blank tape!!

The graphics are rather boring and unimaginative and the colour is also drab and unexciting. The sound is about as good as the graphics and colour. Electrix is not all that easy to play either, but if this is your first £1-99 game then make the most of it and I can assure you that you will buy a better one next time (I hope!!)

Price: £1-99
Graphics ★★
Sound ★
Playability ★★
CCI Rating:- Dodgy

MEGA REVIEW

CCI Rating C64



Donkey Kong by Ocean

Around 5 years ago everybody was raving about a new arcade game that had just hit the video scene. It involved a gorilla, a damsel in distress and a little chap called Mario. This was, of course, Donkey Kong.

Now 5 years on, Ocean are releasing it as an old arcade classic. The plot is quite a simple one. Donkey Kong has captured a beautiful girl and has taken her to the top of a building. Just when she thinks her innings are at an end, along comes Mario the carpenter. He is her only hope. There are four levels for him to master, each one leading nearer and nearer to the damsel in distress.

The first screen is fairly easy as you probably know. You must jump over barrels that the overgrown monkey chucks your way. If you aren't feeling energetic enough for this, they you can hammer the barrels. After you reach the top, Donkey Kong climbs one level further and this becomes a little harder.

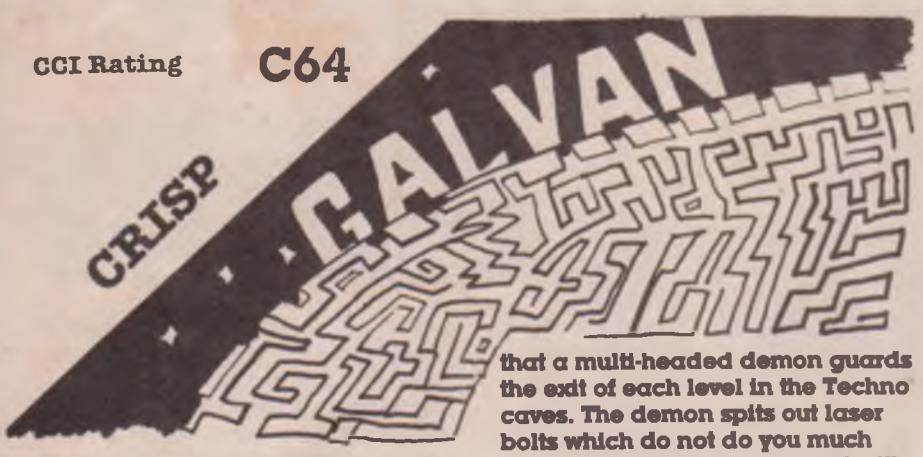
Such objects like custard pies and moving escalators are introduced, which get in your way and annoy you from time to time. However, like barrels and fireballs, the custard pies can be bopped on the head with the trusty old hammer.

The third screen is a little more difficult as you have to time your jumps pretty well. Finally on the fourth screen, Mario must remove the rivets that are holding the scaffolding together. This is done by simply walking or jumping over them. After these are all removed, Donkey Kong falls to his death. You are awarded a bonus life at 10,000 points and there are umbrellas and hats to be collected on the way.

Overall I quite enjoyed Donkey Kong and was playing on it for quite some time. The graphics and sound are about average and it was rather nice to be re-acquainted with one of my old arcade classics.

Price: £8.95 (c) 12.95 (d)
Graphics ★★
Sound ★★
Playability ★★★
CCI Rating — Crisp

CCI Rating C64



Galvan by Imagine

Picture if you will the dark, dangerous depths of the labyrinth of the planet Cynep. There you have the scene for the latest offering from Imagine. You are Galvan, the last surviving member of the Cosmo Police, who sought out and tried to banish evil on the planet of Cynep. Your task, as Galvan the Great, is to penetrate the inner depths of the labyrinths and neutralize all the defences thus bringing Cyneps evil reign to a long awaited end. None of your fellow policepeople have survived which means you have very little information on what lies ahead of you. All that is known is that a multi-headed demon guards the exit of each level in the Techno caves. The demon spits out laser bolts which do not do you much good if you come into contact with them. Each of his heads must be destroyed separately. There are many other aliens and robots who are out to make life as difficult as they can for you. You can destroy these aliens by one of four means. A punch, which is not very strong and will not do much to some of them. You've also got the use of a gun, which is a little more powerful. The best weapons you can get hold of are either Arc Blasters or White Bolt Neutralisers. These destroy both the aliens and the multi-headed beast quite easily. You cannot pick and choose your weapons though which is not that helpful. Those men who have fallen before you just happened to drop some power pyramids, which when collected give you both more strength and a more powerful weapon. The two best weapons the Arc blaster and the Neutralizer will only last for a short period of time, so use them while you've got them. Once you've disposed of the demon you can then proceed to the next, more difficult level.

Galvan's plot is a little dated now but nevertheless it's a reasonable attempt. The graphics are good, quite large, detailed and colourful. The aliens are imaginative and quite varied. The sound is also pretty good with tunes playing during the game and at the title screen. The tune during the game, does get on the nerves a little but there's always the volume control on the T.V. The movement is mostly smooth but occasionally the screen flickers a little which is a bit annoying. A below-par release from the label to which Ocean gave the kiss of life maybe they should give parts of the game the kiss of life as well.

Price: £8.95
Graphics: ★★★
Sound: ★★★
Playability: ★★
CCI Rating: Crisp

BULLETIN 1·0·0·0

Check for Yourself!

List of games and companies

The latest issue of Bulletin 1000 Video Magazine has these goodies for you.

List of games and companies

The latest list issue of Bulletin 1000 Video Magazine has these goodies for you.

Scalextric	Virgin
Arctic Fox	Ariolasoft
Butch Hard Guy	Advance
Short Circuit	Ocean
Spectrum +2 Compilation	Ocean
Star Soldier	Quicksilva
Elevator Action	Quicksilva
Hive	Firebird
Express Raider	U.S. Gold
Leaderboard Tournament	U.S. Gold
Sigma 7	Durell
Top Gun	Ocean
Double Take	Ocean
Gauntlet	U.S. Gold
Xevious	U.S. Gold
Footballer of the Year	Gremlin Graphics
Avenger	Gremlin Graphics
Future Knight	Gremlin Graphics
5 Star Games	Beau Jolly
Hypaball	Odin
Legend of Kage	Imagine
Galvan	Imagine
Infiltrator	U.S. Gold
Movie Monster	U.S. Gold
Nuclear Embargo	Micropool
Crash Smashes II	Gremlin Graphics
Zzap Accolades	Gremlin Graphics
C16 Classics III	Gremlin Graphics
MSX Classics	Gremlin Graphics
Terra Cresta	Ocean
Cobra	Ocean
Tomahawk	Digital Integration
Breakthru	U.S. Gold
World Games	U.S. Gold
Computer Hits III	Beau Jolly
Yie Ar Kung Fu II	Imagine
Konamis Golf	Imagine
Sentinel	Firebird
They Sold a Million III	Hit Squad
Ace of Aces	U.S. Gold
Crystal Castles	U.S. Gold
Mailstrom	Ocean
Donkey Kong	Ocean
The Great Escape	Ocean
Head Coach	Addictive
Deep Strike	Durell
Coin Op Hits	Imagine
Super Soccer	Imagine

MEGA REVIEW

CCI Rating **C64**

Monkey Magic — Sparklers

O.K. hands up all you who remember the television program Monkey. You remember the little oriental creature who used to fly around on a little white cloud? Well now you can experience all the thrills and spills of being your very own half-man, half ape. In the new "Sparkler" you are Darq the monkey, a powerful champion warrior of the long lost breed of half man half creatures. You are about to go on a very dangerous pilgrimage to find and recover the holy scriptures. Your journey is made more hazardous by the presence of venomous, man-eating dragon-flies who will try and knock you off your cloud if you're not careful. You do have your enchanted staff which emits Thunderbolts to help you. Once you've completed the first level, you then reach the secret peach garden. You must climb the trees and collect the magic fruits. You've got demons and other nasty creatures to contend with. After you've collected the fruits, you move onto the next stage of the quest. Monkey is attacked by flocks of swooping birds. These birds drop fire balls on you (I wanted to be an ornithologist once. Now I'm glad the examiner gave me the bird! Ed). You must jump over the cracks and throw stones to survive. If you do manage to survive, you then reach the holy temple. The temple is guarded by a fire-breathing dragon. You've got to kill this nasty before you can enter the holy temple.

Monkey Magic did hold our attention for a surprising length of time. A decent game if you've never played anything like this before. The graphics are of reasonable quality and are quite colourful. There is a continuous tune throughout the game but it's nothing special. Nevertheless fully worth its price. Recommended.

Price: £1.99
Graphics ★★
Sound ★★
Playability ★★★
CCI Rating — Crisp.

MEGA REVIEW

CCI Rating **C64**

MEGA

Indoor Sports — Advance Software

Do you remember the days back five years or so ago, when we sat bouncing a ball from side to side of our TV screens and thought we were having fun?

Scoring goals brought shrieks of excitement or frustration... Well the excitement and frustration are back again only this time with a slickness that has brought the bouncing ball game up to the minute. In fact, Advance Software's new indoor sport 'Air Hockey' is the fastest growing indoor sport in the US. It grabs you with that old time compulsion to keep on and on till you score and makes you furious when your opponent slips the puck past you. You play — two players or against the computer-at 9 skill levels. It's like a snooker table with a surface of ice and at the top level the game is lightning fast. Indoor Sports has two other play sections as well — Ten Pin Bowling and Darts. Both demand tight concentration and lots of practice to get the scores up in the right place. The Bowling really does have that 'belt it down the alley' feeling and when you — very occasionally — smash down all the pins it really feels like you've made it to the team or won the championship.

But though both Air Hockey — we hear that in the real table game in the US broken knuckles are agonisingly frequent! — and Bowling are first class, we liked even more the Darts. Well you could play it on a real board but this version has such as authentic feel you might not want to bother. It's got four skill levels and, as in the real thing you have to judge flight angle and strength of throw to get the darts on accurately. Best of all, the computer, if you play against it, really gives you the chance to challenge it on equal terms. Indoor Sports is excellent value and will keep you going back to it again and again, not for weeks but months.

Super Advanced Info! Advance tells us that they're preparing to bring out an arcade/adventure style 'Laurel and Hardy' game written by the creator of 'Dan Dare'. What we saw of it made us think that Advance has a possible world winner. With top value games like Indoor Sports, they are a games house to watch.

Z.M.S.

Price: £8.95 C £14.95 D
Graphics: ★★★
Sound: ★★★
Playability: ★★★★★
Rating: Mega

MEGAREVIEW

CCI Rating **C64**

CRISP

SKY RUNNER

SKY RUNNER by Cascade

Cascade has earned a long-established — in computer terms — reputation for good flight-style games. Air Combat Emulator — A.C.E. — has come to be regarded as a classic of its kind across virtually every brand of home computer. A.C.E. can be counted the surprise hit of 1986 that just went on selling through the year and finally won, jointly, CCI's Gamer for the Best Simulation of 1986. It proved that Cascade knew exactly the formula which would keep you locked to your screen and joystick and toget you to go back to them again and again. Somewhere in the quiet ultra-respectable Yorkshire county of Harrogate were bubbling up some highly creative even evolutionary programming ideas, A.C.E. certainly proved that.

I have to say that Cascade's follow-up to A.C.E. — Sky Runner — does really break that much ground — or air. I suppose it really ought to be. But that doesn't make it less entertaining though. I don't know if it will equal the hit A.C.E, but I am sure that a lot of people are going to want it once they've tested it.

You are a Runner Squad Commander in charge of a Planetary Skimmer. You don't need me to tell you what that is, I hope. You also have three Sky Bikers which drop down to the ground, one at a time. With the Skimmer, you flash over — or try to — on-coming obstacles and you have to be really smart about it, for even at the early levels, it demands top speed reactions. Slow reflexes and you get blown to smithereens — fast! When you get past the first level, you let down your Sky Bikers and start dodging the ground objects that zip towards you at a rate of knots.

There is a neat little radar screen that gives you the whole picture so you get some advance notice of what's coming at you. The aim of the whole game is to accumulate riches which are marked up on a centre mini-screen. Sky Runner has very much that arcade "here they come at me, oh hell the swine exploded me, I'll have just one more go" feeling. I kept coming back for more, and more . . . and just one more try . . . It's not the kind of game that is so easy that you get the hang of it straight away and get sick of it pretty quick nor is it so difficult that you get knocked off with infuriating and boring frequency. Sky Runner is just about right. If you want a flight-style game that will challenge, entertain and fascinate you, and if maybe you liked A.C.E., well then Sky Runner is for you. Recommended.

Z.M.S.

Price: c£9.95, d£12.95.
Sound: ★★
Graphics: ★★★
Playability: ★★★★
Rating: Crisp

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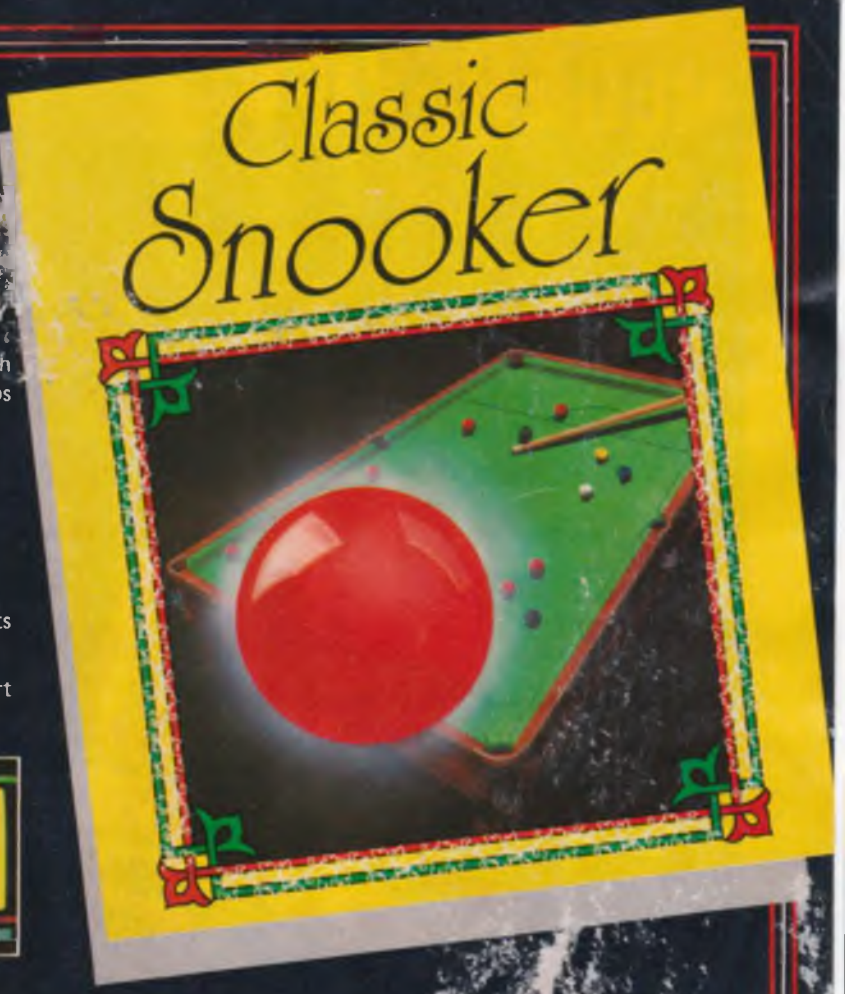

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MEGA REVIEW

CCI Rating C64

CRISP

Howard the Duck — Activision

These days Licenses are all things to all people, and if you're Ocean or Elite they're the only reason your company stays afloat. I say Licenses rather than 'games' because it's becoming increasingly obvious that once the big boys buy up the next Stallone film, and once the ads have been booked, then the last thing that actually gets serious consideration is who should write the game and how good that game should be. There is an increasingly cynical attitude in the software business that says a kid will buy any old rubbish if it's got a big name on the front, and the way some of the retailers are buying stock (often on the basis of video alone) supports this quick-scam to the full. The results were numerous in 1986, from the pathetic Knight Rider to the attrocious Breakthru, and unless you the punter give such products the reception they deserve it will continue in 1987 — You have been warned!

Activision, fortunately, are not in this mould. Having produced the most successful license of all in Ghostbusters, they continue to show that with good games designs, clever scene-stealing (remember the logo?) and perfect timing you can still make money out of what is now a risky and tacky business. Howard, A new Breed of Hero may be the kind of film where even a toddler would slash the seat in disgust, but it's only just out on national release and Activision should do well out of it if they can get it to the shops in time. While I'm not blown over by the game, I do confess to being pleasantly amused for a while and like Ghostbusters there are just enough gimmics from the film to make it a good buy.

Howard is a 4-part arcade adventure shot in gloriously pseudo 3D. The colours remind me of Spy V Spy II, but the 4-way scrolling and rather slow gameplay make it look and feel very different. At the start you parachute onto the island (you being a duck-sprite with real webbed feet and a cute waddle) and set off in search of your back-pack. In this pack are a micro-lite aircraft, outboard motor (for crossing water) and ray-gun with which to zap your main enemy, The Dark Overlord . The island is full of menacing eyes in the bushes, mutant slime that can only be leaped, and stretches of water. There are also mole-hill like protrusions from which spring zombies that home in on you if left unchallenged. Fortunately you are a master of Quack-Fu (if you laughed at that you may find the film funny too . . .) and by jumping on the mole-hills or kicking your opponents repeatedly you can get rid of the problem. This having been done you find and cross the rope-bridge and you've completed the first level.

Level 2 is a disappointment. The idea is to pilot your micro-lite to the top of the volcano, and while the graphic is nice the gameplay is terrible. It's like those old racing games where you had to bend your joystick like mad to get the lightest turn out of the car. Anyway, that's it.

Level 3 is basically a run-and-dodge stage, with gaps in the path and falling stalegtites to avoid. Level 4 is the shoot out with the Overlord himself, who turns out to be surprisingly easy to hit. Then it's a question of getting out before the island blows.

As you may gather, my initial enthusiasm for the game waned after the first level. The gameplay was far too slow, and the action a bit monotonous. Like Ghostbusters it soon becomes obvious that the frills necessary to make the game a bit like the film use up most of the memory, and once you've got over that similarity you may not return to the game all that often. That having been said it's well packaged, obviously well designed and not a bad buy. I would especially recommend it to younger players who may not be so frustrated by the lack of addictive gameplay. All the same, it's nice to see Activision back

T.M.

Price: £9.95
Graphics: ★★★★
Sound: ★★★
Playability: ★★
Rating: Crisp.

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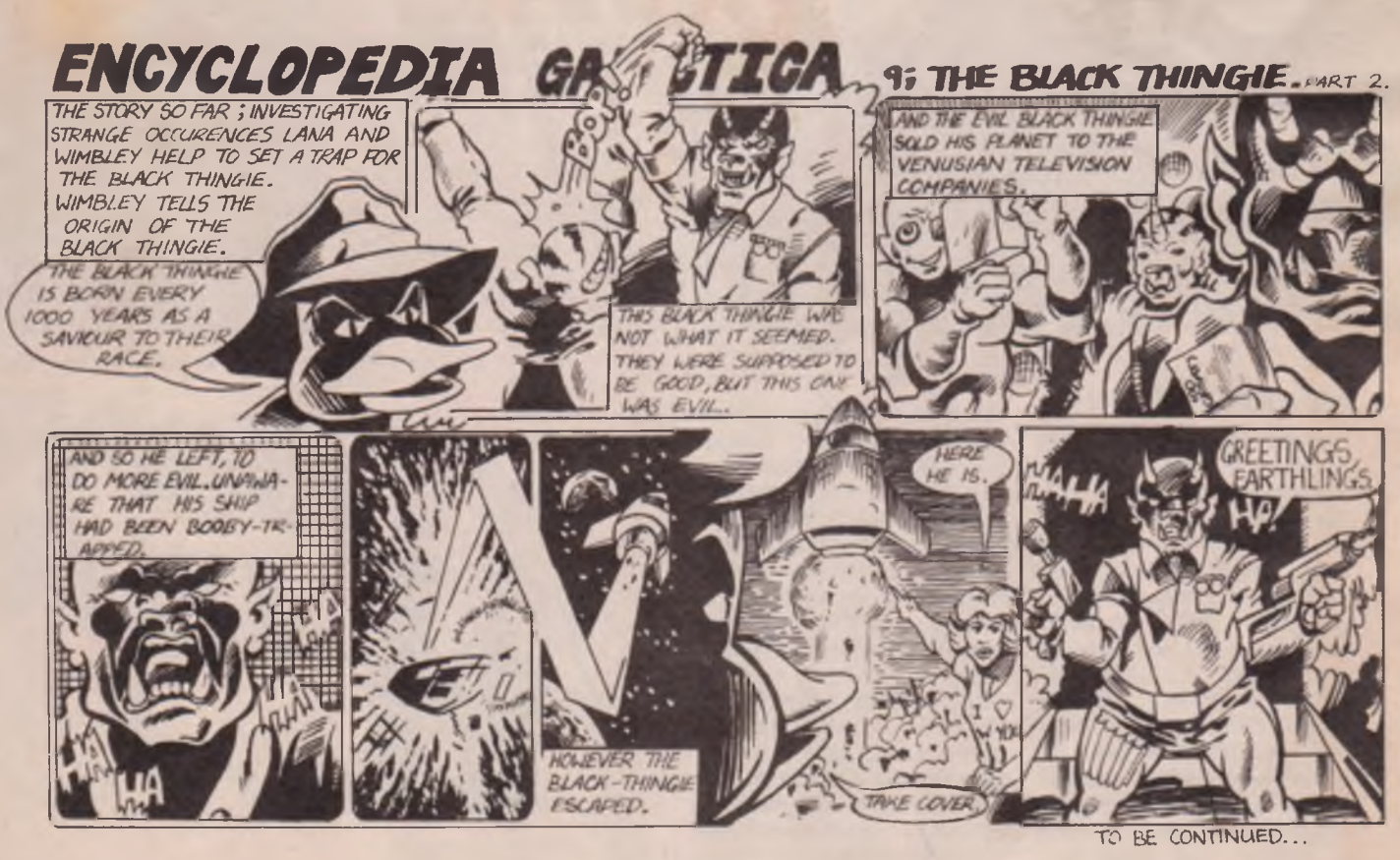
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THIS BLACK THINGIE WAS NOT WHAT IT SEEMED. THEY WERE SUPPOSED TO BE GOOD, BUT THIS ONE WAS EVIL.
AND THE EVIL BLACK THINGIE SOLD HIS PLANET TO THE VENUSIAN TELEVISION COMPANIES.
AND SO HE LEFT, TO DO MORE EVIL. UNAWARE THAT HIS SHIP HAD BEEN BOOBY-TRAPPED.
HA HA HA
HOWEVER THE BLACK-THINGIE ESCAPED.
HERE HE IS.
TAKE COVER
GREETINGS EARTHLINGS.
HA!
TO BE CONTINUED...

Super Felix is "Fee-line". That means pay cash and he won't

Naming the Guilty!

Attempting to remain the anonymous powers behind all the software houses in the universe, various so-called PR organisations who shall be nameless have all changed names. David (White Shoes) Carlos has started to call himself Intermediates (which I'm sure must have a non-sexual meaning, too) and the sultry Marble Arched beauty Lesley Mansford has by deed poll become Lesley Headlines (or as President Mitterand calls her in their little tête a bêtes at the Elysée Palace in Parree 'Les Headlines'). And the only man ever to run a world empire from Brighton Pier — the illegible Michael Boxter — is now the sole provider of the real 'Solutions' to the world's most serious software problems.

This title changearound is a direct result of my revealing to you the significance of the Iceland Summit of their murky but all-powerful organisations. Of course, Gorbachov and Reagan were terrorised into fronting the affair. Why else would they have behaved so strangely?

It is reliably rumoured too that the Peter Wright Spy Book Trial in Australia is really just a cover up operation mounted by the UK Government to shield these PR organisations — who are known to have penetrated the FBI, CIA, KGB and MI5 — from public scrutiny.

The luscious Lesley Headlines recently visited CCI Tower in the company of a man who claimed to be Bill Delaney ex-BT now MD Nexus but who looked suspiciously like Colonel Oliver North, ex of President Reagan's staff. 'Delaney' demonstrated 'Super Sunday' which he pretended was an American Football game but which was obviously the plan for the Iran/Contre arms/money smuggling scam about which he had refused to tell the US Congress but was quite open with CCI. The stunning Lesley (she only has to walk to the Deep Pan Pizza in Edgware Road for Arab Sheiks by the tribe to throw gold bars at her feet — she wears Dr Martin boots for protection) reduced Our 20 Kilo Sacred Editor to a trembling shadow by a mere flash of her inscrutable peepers and and a sensual denial that she has already decided what will top the games charts for the whole of 1987.

I personally saw the US Ambassador's car following the ex-Ms Mansford's Limo at a discreet distance. Isn't Martech's latest game based on ex-Cabinet Minister Michael (Tarzan) Heseltine? And wasn't that Sir Robert Armstrong with whom (pretending to be Rod Cousins) the languorous Lesley was conferring in the shadows at In-Din Party?

Intermediates . . . Solutions . . . Les Headlines . . . the words are sinister to the extreme, nicht war?

THE RESULT OF DAVE CARLOS' LAST BINGE WITH A VIRGIN STURGEON!

Brewery Blues

David ('White Shoes') Carlos, who is known to employ at least five doubles so that he can be in six places at the same time (he orders the white shoes by the dozen), has through his majestic management of Domark's brilliantly successful National Trivial Pursuits Championship at the luxurious Whitbread Brewery Palace dispelled forever the charge that 'he couldn't organise 'a piss up in a brewery.' The tired and emotional representatives of other defeated magazines who piled their tables with empty beer bottles and noisily bawled and enviously guffawed while CCI's Champion Johnny Cooke mopped up the points have finally nailed that slander about David Carlos forever (and is he really a close relative of King Juan Carlos and 4th in line for the Spanish throne?) Drunken journalists? Peeced up in a brewery? Shome mishtake shurely . . . hic! (Don't call me Shirley! Ed).

Guess the Reviewer?

Our guest reviewer (Sloane Ranger Princess Krotoa of Mose):

Cobra — Ocean.

'Surely, this should have been an adventure in the jungle. I personally couldn't see the snake at all in this game. In fact, I couldn't tell who was Cobra at all. 'Crime is the disease and he's the cure'. Well that's so corny isn't it? I'm not a violent person but I think this is a game for the under 10's'.

Thank you, Princess, another penetrating comment from our aristocratic guest reviewer in the next Super Felix.

mention you... (unless somebody else pays me more!!)

BT Story (Part XIV) Plus

No Sorry, Printers Error. No Part XIV this month. And, thank you BT for the New Year envelope containing 5 million forints (what the hell is a florint anyway?) What about cancelling my phone bill too? So what's this I hear about Big Julie Rosenphone (he was great shooting craps in 'Guys and Dolls' wasn't he?) claiming a direct line via satellite to Activision and Electronic Arts bank accounts? If he has, sell British Gas and Guinness and buy BT shares. We hear the fabulously rich Bulldogs d'Oysterville already have.

Which must be why Mastertroniconeandnein has launched a new label called 'Bulldog'. Supremo Frank (Mastertronic of the Universe) Herman tells me that Winston Churchill always used to ask him for oratorical advice when the bulldog-faced PM was stuck for a phrase or two in a speech to the nation. 'We will fight on the bleachers' was first used by Mastertronic for a baseball game inlay before Winston S. appropriated and changed it. And Churchill's two fingers in the air salute was originally employed by Frank to wave to the staff at BT's Firebird Silver Range as he drove his solid gold Rolls Royce (number plate FH199) down New Oxford Street long before UK's wartime leader ever went around putting his pirated V sign on the newsreels.

About the Bulldog label, Frank told me "Never have so few caused so much aggravation to so many in so short a time and you can quote me". Such a pity dear Sir Winston is dead. I'm sure he could have done something a little less memorable with that particular phrase. Bulldog's first 64 title is 'Feud'. It's believed not to be about the relationship of two large software houses fighting over £1.99.

Billet Doux

The following mysterious message was carried by all the wire services and networks in the world. Supposedly signed by a correspondent called Glen Ellyn.

'One of the most significant results of the recent Comdex/86 Convention held in Las Vegas Nevada last week was the close ties that were established between representatives of Lattice, Inc and the UK's publication Commodore Computing International.

The parties involved developed a mutual accord on many ideas and were able to express and implement many of these to the satisfaction of both.

The representatives of both firms have decided that the dialog was so beneficial to both parties that they will continue to seek new ways to meet again in the near future'.

Sir Billion Donald B.F.N. CCI's official representative at the Convention denies he ever met a lady called Glen Ellyn and claims that the word 'Lattice' is a synonym for 'framework'. He asserts heatedly (Nevada is a hot place) that he is therefore being framed. President Reagan's ex-National Security Advisor, Admiral Poindexter, denies that money is being diverted from the Contras in Nicaragua to pay Sir Billion's expensive divorce lawyers.

TENTH FRAMED! US GOLD'S RICHARD TISDALL DEFENDS HIMSELF AGAINST AGGRESSIVE SKITTLES WHO OBJECT TO HIM TALKING A LOAD OF BOWLS!

Stop Press!

An overseas admirer (yes, I do have them, there's one björn every minute) recently sent me many tokens of appreciation, amongst them the Swedish top ten computer games chart. I hurriedly had it printed up just for you, as no cool cat can possibly afford to be without it...

1.	(*)	'43 — One Year After	Greve Graphics/Action
2.	(1)	Captured	Greve Graphics/Action
3.	(11)	Sky Runner	Cascade
4.	(3)	Konami's Coin-Op Hits	Imagine
5.	(*)	Sport Four	Arco
6.	(7)	World Games	US Gold
7.	(4)	Yie Ar Kung Fu II	Imagine M FL
8.	(*)	Labyrinth	Activision
9.	(5)	Bazooka Bill	Arcade Machine
10.	(*)	Legend of Kage	Imagine

WHO IS THIS MAN? THEY'RE TRYING TO MAKE ME BELIEVE HE'S JOHN COOKE, CCI'S WINNER OF DOMARK'S SOLID GOLD TRIVIAL PURSUIT SET! RUBBISH! HE'S SIR CLIVE SINCLAIR SPORTING A FALSE BEARD. WHO ARE THEY TRYING TO FOOL AND WHY?

Happy 1987 to you!

By the way, I failed to give you my New Year Resolution. I hope and trust it absolutely overjoys you. It is to go on being just as kind and nice to all the terrifically wonderful amazing people in the Commodore world (especially you, Princess Krotoa of Mose!) in the coming year as I have been in the past. There, doesn't that make every single one of you deliriously, rapturously happy? As T S Eliot (he owns Foster's Lager) said 'Love one another or die' (Actually it was W H Auden and he said 'Love one another *and* die.' But let it pass, let it pass. Ed).

DEAR MISS NICOLSON OF EASTBOURNE — HOT SOFTWARE COPPED OUT- NOT US! DO YOU SWIM IN A BIKINI?

FIGHTING WORDS

The Jeff Minter Page

There are not many real stars in the computer world, but among them undoubtably glitters Jeff Minter, creator of innumerable smash-hit games. We've given Jeff the freedom to say what he wants (libel laws permitting!), so look out for his hard-hitting pages in future issues of CCI. You may not always agree with what he says, but he's certainly worth listening to. CCI won't always agree with what he says either, but we promise to print it anyway!

Greetings, humanoids. I'm back again, scarcely recovered from the excesses of the Christmas/New Year period, getting my head back together again and back down to work on Revenge II.

I'm going to write about something a bit different this time; make a bit of a change from laying the boot in to Commodore over Amiga-pricing and going on about the ST all the time. No, I'm going to indulge in a bit of speculation about what's going to happen to computers in the future. I'm not talking about the next Amiga or what micro you should get for Christmas 1989; I'm thinking of things maybe fifty, one hundred years from now, and the effect that such things will have on humans...

I read the other day that researchers have developed the first-ever working molecular logic device, a NAND gate. The NAND gate is the basis for much more complex logic structures; given enough of them, it is possible to build a functioning computer. The molecular logic gate, however, instead of using tiny transistors made of silicon, uses molecules of certain chemicals. The 'inputs' are made by stimulating a sensitive area of the molecule with laser light; the 'output' area of the molecule changes state according to what is coming in from the 'input' side, and is read by another laser.

The thing about molecular systems is their size, and their speed. A molecular computer would be orders of magnitude smaller than silicon devices; after all, by using molecular memories, you should be able to store data almost as efficiently as a human brain. Unless you actually figure out how to store bits of data upon individual atoms, you can't get any better...

Molecular systems will be fast, too. The distance between components will be so small that hardly any time will be lost by data 'in transit' (this may seem to be splitting hairs, but when Cray made the Cray-2 supercomputer, they built it in its characteristic, weird cylindrical shape in order to minimize the electron-path lengths, and thus make it faster).

Anyway, the upshot of all this is that before very long we're going to be able to build a computer with processing-power and memory-storage capabilities approaching that of the human brain. This will give rise to some interesting possibilities and problems, some of them VERY weird indeed....

Firstly, consider the problems of programming such a device. There could be no question of programming it in the conventional sense, with normal programming languages. You'd never realise the system's true potential with that approach. No, what you'd need to do is provide the system with access to a vast database of information about whatever function you intend the computer to perform, and then start the system off with a small heuristic (learning) kernal-program. The system would then 'read' the database and 'learn' about the subject of choice, eventually becoming 'expert' enough to use. However, consider what might happen if you were to provide it with a 'world' database and various audio and video inputs...depending upon how well such a system is 'taught', you might well end up with something along the lines of HAL from 2001!

Whether such an 'electronic entity' could ever be created, and whether such an entity, once created, could be said to be 'conscious', is very difficult to say. Just trying to define 'consciousness' is difficult enough. And consider the ethical problems that would arise if an 'aware' computer entity were ever created: Would you be comitting murder if you erased the program? Does the computer have a soul?

The question of the soul is one which technology may eventually be able to help us answer. There are those who believe that a human being is the sum of his parts and no more: i.e., the way a person thinks and feels is governed entirely by the 'program' running in his brain; once that human dies and the program terminates, nothing more remains. Game Over Player One. No heaven, no hell. Conversely, there are those who believe that there exists a soul, which continues to exist with or without the brain to support it; the brain, rather than being the core of the entity, is more like an 'interface' through which the soul interacts with the physical world. Once the brain dies, the soul continues to exist, independent of the physical body, but it can no longer influence the physical world.

OK, so we have these two hypotheses, and a computer of equal complexity to the human brain. The nature of the experiment to determine the existence of a soul is as follows:

1) Take a brainscanner, and scan the brainstate of a living human being. (A brainscanner is a hypothetical device allowing the operator to read the current brainstate of any human — think of it as Freeze-Frame for the brain).
2) Dump the brainstate into the waiting computer.
3) See if the resulting brain-image starts to function.

If the brain-image starts to function, and behaves and responds in a sentient manner, and responds as a 'brain-clone' of its source, then we can conclude that 'soul' does not exist, and that a human is merely the result of the program running in his brain. (If this is the case, we need not despair of the fact that there's no Afterlife— for in performing the experiment, we should have made ourselves immortal; we could all transfer to machine-brains which would continue functioning long after flesh and blood were dust).

If, however, the brain-image does not function as a sentient being in its own right, we can assume that something was not transferred in the braindump process; that something being 'soul'.

Whichever result were to occur, there would be MAJOR freakout amongst theologicians and philosphers and suchlike.

Of course, if we could clone off brain-states and run them as viable entities within computers, there'd be more moral hassles; what if you made six copies of yourself? which one is you? Also, you'd have to take regular back-up copies of your machine/brainstate— or else you'd die if there was a system crash!

Naturally, it'll be a fair while before any of this becomes reality. For a start, nobody yet has any significant understanding of the way in which the brain works. For our computer to be able to run a brainstate, it must be able to process in the same manner as a human brain. And getting the brainstate will be difficult to achieve, too— at the most no-one knows exactly how human memory works, let alone how to read it. No doubt in 100 years' time Evesham Micros will bring out Freeze Brain Version 2.0...but until then we can only speculate.

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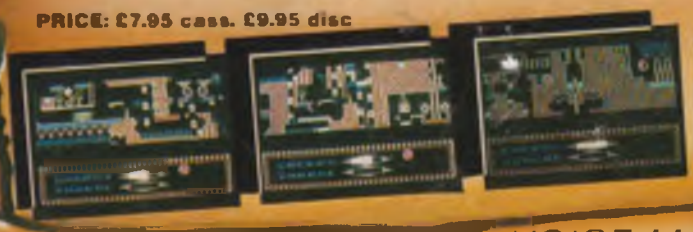

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MEGA REVIEW

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CRISP

MACSEN'S DOUBLE
Blockbusters Goldrun and Countdown

Macsen, a company whose name does not conjure up empires of international size has stolen a march on the Ocean's and U.S. Gold's by grabbing licence for star TV shows Blockbusters and Countdown. They are also bringing out other TV hits like T... sure Hunt and we hear they've ... signed the show that seems to ... notize half the adult population ... the United Kingdom — ... And that's not to mention all ... other countries that ... snap up the successful British ... Opera.

Macsen ... some ... ybe loads of cash — ... nered the ... area.

Th... gam... ... easier to ... mputer entertainment. They ... not intended to be arcade shoot 'em up and ... Macsen have chose to follow ... the original TV style ... the ... forget about all ... the game's ... ...

THE COMPANY THAT TOWERS ABOVE THE REST FOR C16 PRESENT

C16

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MEGA REVIEW

CCI Rating

IFFY

DANGER ZONE

Dangerzone! Codemasters

Dangerzone is a space invaders turned upon its side. It is reasonably fast, and has good sound effects. As usual it also has a flashy storyline which seems to have had as much effort put into it as the game itself! The Galactic Patrol has been working on a new breed of Fighter/Reconnaisance ship — the XT/99. Now 112 later, a pre-production prototype has been built, and extensively tested in computer simulation methods. Now though a test pilot is needed to test the strip in a real-time combat environment.

' THAT was just the background info, impressive don't you think?

When you enter the DANGER ZONE you start by firing at aliens on the second level you fight moving aliens and a single rocket goes flying at you. Then as you get further into the game you meet the asteroids. The big ones split into two and fly at you and the small ones just deplete your shields when you are hit. You have a laser which overheats and when this happens you must wait a while until it cools. Your ship is a funny little thing that once it moves, it finds it hard to stop, bouncing from one side of the screen to the other. A pretty good game but has no lasting appeal and you could probably soon tire of it.

Price: £1.99
Graphics: ★★★
Sound: ★★★
Playability: ★★
Rating: Iffy

CCI Rating

CRISP

Plus/4 Strip Poker — Anco

"Well, at last" say all those impatient Plus/4 owners who have been waiting so long. The 64 version of Artworx Poker has been out for years! In fact it was the first "sexy" program ever published — publically. (I hope that word doesn't get misspelt!). Now, finally, the 64K capability of the Plus/4 gets its owner the chance to strip down for action. (I don't like the tone of this review. Clean it up at once! Ed) Anco have given this long time favourite a going over and anyone who has the poker skill can get Suzi and Melissa to reveal all — and I do mean all! (Sorry, Ed, won't happen again . . .) This game is adult-rated so in case any kids are reading this I'm not going to risk prosecution by describing it. Anyway, everyone knows what Strip Poker means don't they? (I'm not sure I do. Ed) By the way, although this Plus/4 version contains only girls, Artworx, the original U.S. creators of the game can't be accused of being male chauvenist pigs — in the U.S. you can buy a version with a male stripper. And in the not too distant future could be that Anco will bring lucky AMIGA owners a verson for that computer, too. Meanwhile, Plus/4 owners play your cards right and . . . (this review is banned! Ed).

Price: £7.95
Graphics: ★★★★
Sound: ★★★
Playability: ★★★
Rating: Crisp

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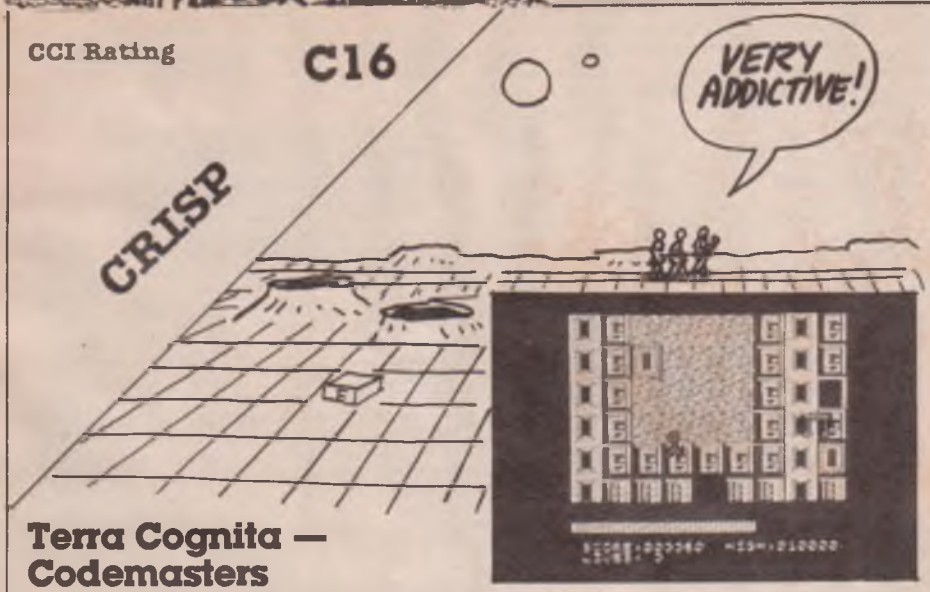
MEGA REVIEW

CCI Rating

C16



Terra Cognita — Codemasters

A few issues back in the news section of CCI you may have, (better have!), read an article about a new budget label appearing. This company was called Codemasters and it's a very appropriate name indeed, for, in producing a game like this they must be masters of code — it's a super bit of programming.

The storyline goes thus; three mining engineers are walking along when they come across a robot head which starts blabbing about people destroying its planet. It suddenly gets very angry and decides to take it out on the engineers. Wouldn't it be more simple if you were one of these people who could go through life without meeting any revenge seeking robots, or talk your way out of things eh? But wouldn't be any fun would it?

Anyway the robot decides to kill you so you must make your way to a space ship, to get off the planet.

The screen scrolls upwards and at the top are two robots waiting patiently to crash into you, as if that wasn't enough, as you're desperately trying to shoot them, you fly over blocks which do funny things to your ship. Squares marked F are fuel dumps, others have a plus sign which speeds you up, and minuses, which slow you down. You can also pick up extra lives and bonuses, and indestructibility for ten seconds; then there are the worst of all — the time shifts which take you back to the beginning, frustrating I can tell you.

This game has excellent graphics and very addictive — even when you complete it. Codemasters are going to be a force to be reckoned with very soon, if they go on producing terrific value like Terra Cognita.

Price: £1.99
Graphics: ★★★★
Sound: ★★★
Playability: ★★★
Rating: Crisp

CCI Rating

CRISP

LEAGUE CHALLENGE

League Challenge by Atlantis

Ever thought you could make a good football manager — do better than the manager of your favourite team? Well now here's your chance to put yor money where your mouth is with League Challenge from Atlantis.

You start by choosing one of twenty teams in the fourth division — you can even make up your own teams name. Then you train your team — if you want to — at several levels of fitness. The higher the level the more expensive it is, decreasing your seasonal balance of money alarmingly.

After this you'll most probably want to try your team out in a match to see if they have any weaknesses. You can either play fair, fair but tough, dirty or really dirty! Either way you lose out; you either get sent off and injured or fouled and injured. Bad break that, get it? Bad break, funny eh? (Do you find broken legs funny? We can help you there. Ed.)

There are the options of buying and selling players as well — but you can never sell your players for what they're worth and have to buy others for way over their going rate.

The response time when you key in things is sometimes slow. The writing also starts to glare at you after a time.

I think my version had a bug because sometimes it didn't respond at all and I'd have to turn it off and load it again.

This isn't a bad game and is the cheapest football manager type on the market. Recommended.

Price: £2.99
Graphics: N.a.
Sound: N.a.
Playability: ★★
Rating: Crisp

MEGA REVIEW

CCI Rating **C16**

AWESOME

"I LOVE THIS GAME" SAYS COURTNEY KING

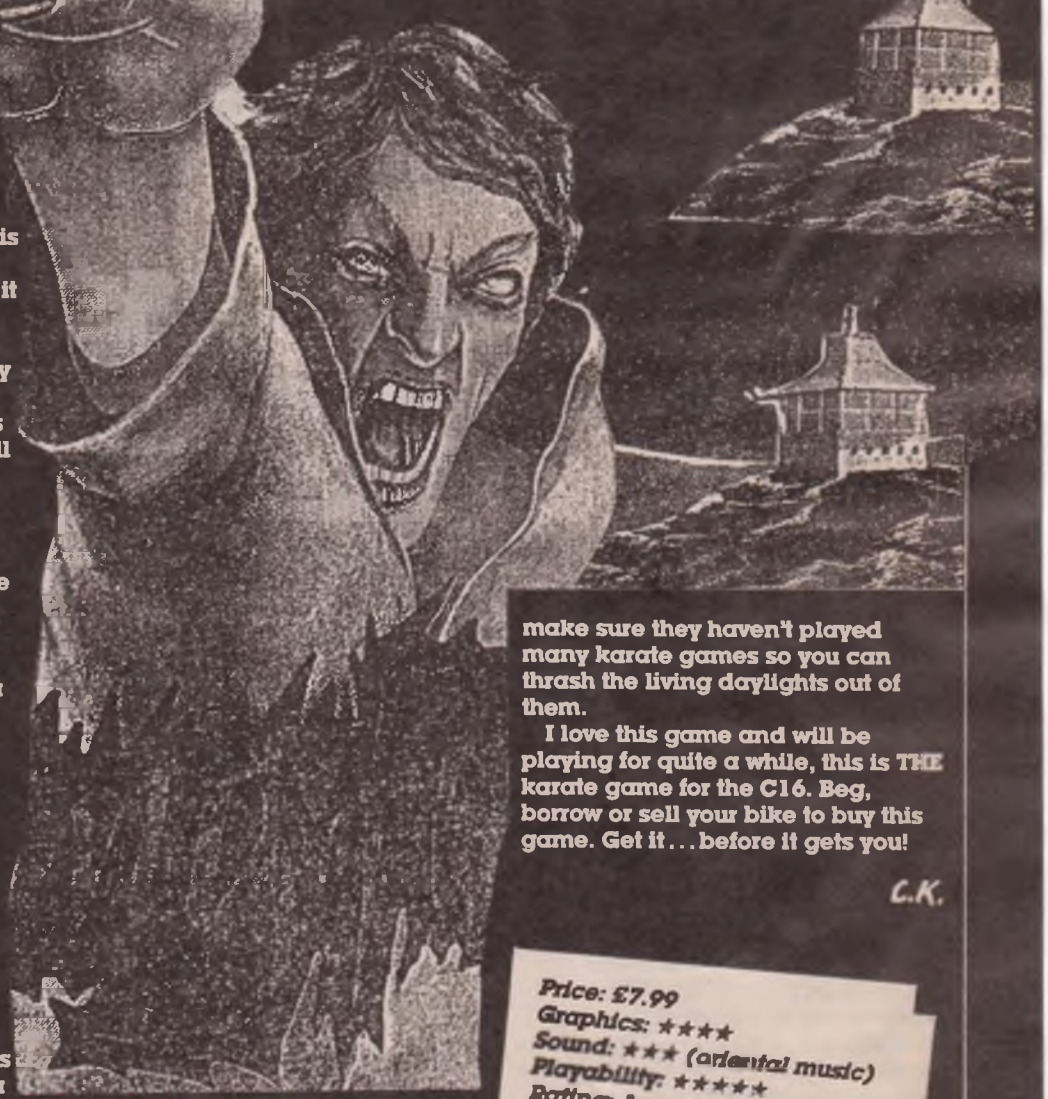
The Way of the Exploding Fist - Melbourne House

The Way of the Exploding Fist (E.F. from now on) was the first karate game and heralded a genre of computer games still emerging. It is also one of the best karate games ever. Now it's converted to the C16 it is THE best.

You have to become as high a dan as possible, and you do this by fighting an opponent and beating him twice. The dans get tougher as they get higher and very soon you'll be wrenching your joystick in all directions trying to beat your opponent.

The game is graphically excellent — for the C16 — with little squat karate men who look a trifle fat. They are though very well drawn and even have faces. The background picture is of a buddha and green hills and pagodas, etc and though it isn't of the same standard as International Karate background graphics, the overall playability and polish of the game is far superior.

As your disposal these moves: Jump — no impossible leaps here, but handy when faced with forwards sweeps, high punch-nice straight armed punch to the head, jab — a painful-looking stomach punch — very useful in close fighting, low punch — awkward this one, but very effective. This is just a sample of what you can do. Other moves are the roundhouse and high kicks



You can either play against a friend or the computer — both are fun but when you invite a friend, make sure they haven't played many karate games so you can thrash the living daylights out of them.

I love this game and will be playing for quite a while, this is THE karate game for the C16. Beg, borrow or sell your bike to buy this game. Get it... before it gets you!

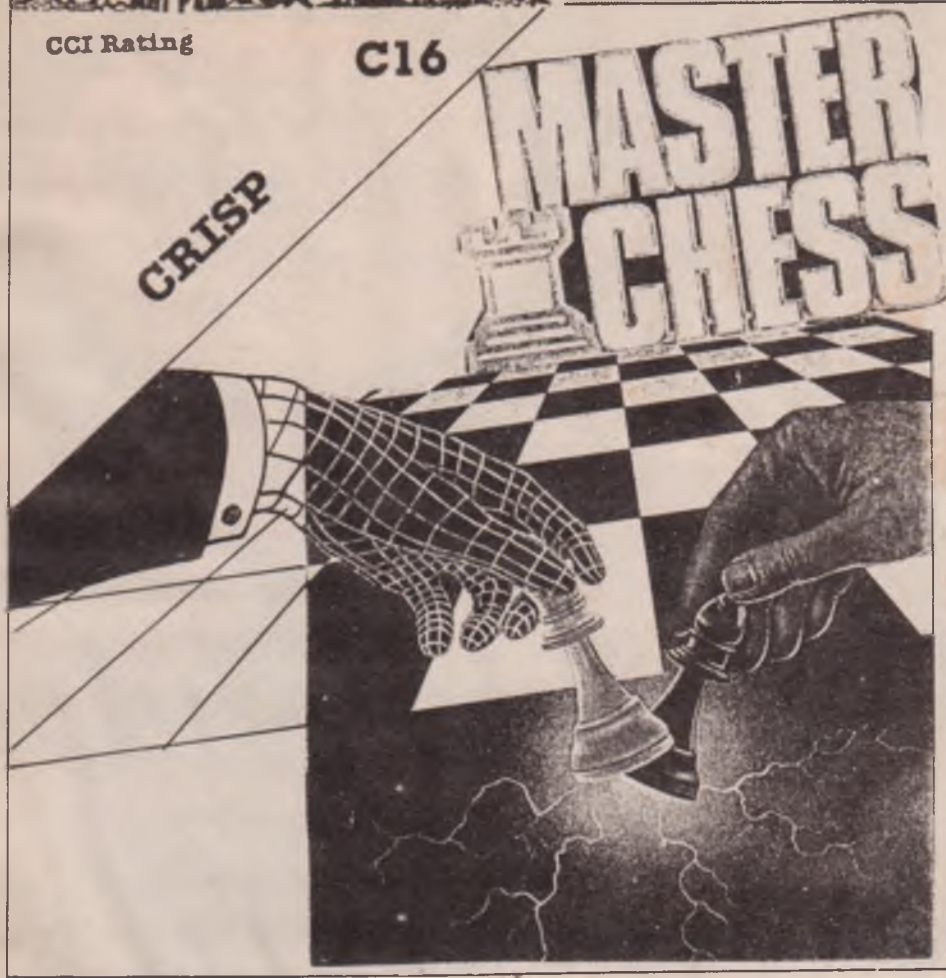
C.K.

Price: £7.99
Graphics: ★★★★
Sound: ★★★ (oriental music)
Playability: ★★★★★
Rating: Awesome

MEGA REVIEW

CCI Rating C16

CRISP



Masterchess — Mastertronic

I enjoy a game of chess occasionally but no one else in the house plays it, so for my own pleasure, a chess game is just what I need.

On starting, this game gives you a choice of playing either the black or white pieces. It then asks "How much time would you like to move in?" (something like that anyway). The more time you give, the better a chess player it becomes.

The game is well presented with a list of options, such as moving players around, but it's a shame that there isn't a play back option. You can load or save previous games, so if you're good enough a game can go on for ages.

This is quite a simple chess game but it is more than adequate for most chess-playing abilities and supplies everything you need to play a fair game of chess — which is just what I wanted.

C.K.

Price: £1.99
Graphics: ★★
Sound: Na
Playability: ★★★
Rating: Crisp

CCI Rating C16

MEGA

BOUNDER AND PLANET SEARCH

Your ball rises and falls rhythmically and can be moved just about all over the place. If you bounce on question marks you get a surprise. Maybe an extra life or jump bonuses, but usually you get... deaded! Fast! (If that's the proper term for it, which I doubt very much.) There are also arrows to bounce on which almost double your time in the sky, enabling you to get to blocks normally out of reach.

As with most things in life, there are obstacles out to stop you having a good time; like the yellow mountain ranges, which you can't ever jump over, or the arrows which make you go pop — not very healthily I warn you.

When you first start playing, you might find yourself getting killed often but with perseverence you'll get the hang of it, and its addictiveness will start imperceptibly to grip you. You'll start completing level, and completing the bonus screens and getting extra balls very handy... erm, I mean helpful. And then you're hooked!

The other game, Planet Search, is a good complementary game to Bounder, providing a little violence and speed, when you get the urge. It is the old Defender type of game, and is quite good. It makes the tape excellent value for money and well worth seven quid. (Planet Serchs' music is good too!) These days Gremlin can't put a foot wrong. This is a must for any C16 gameplayer.

C.K.

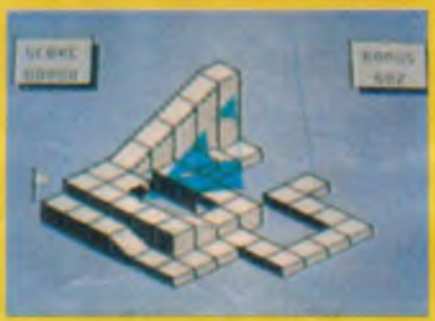
Bounder/Planet Search — Gremlin

Bounder must be one of the most simple game concepts ever to hit the games world, it is also one of the most addictive. The idea is to bounce you way through a series of courses — you, naturally, are a tennis ball (Speak for yourself! Ed). Sounds familiar? I though so, Trailblazer, this time from above at a slower scrolling rate.

Price: £6.95
Graphics: ★★★
Sound:★★★
Playability: ★★★★
Rating: Mega

MEGA REVIEW

CCI Rating **C16**



Pinpoint — Anco

Simple yet perhaps the most addictive game you have ever played, the way Anco describe this game. A little boastful maybe but this game isn't very wrong for a real Marble Madness turn on.

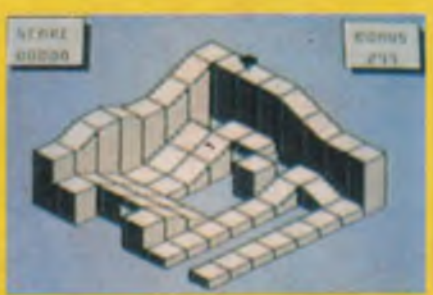
You are in control of a spinning top and you must guide it through a three dimensional course to its destination — a white flag. When you complete that, you get thrown into the next of ten courses. The game is very reminiscent of spindizzy which got a totally Awesome rating within these pages. I don't know about you, but I've always loved games like MM and Spindizzy and until now I thought this couldn't be achieved on the C16.

The game is brilliant, good graphics, almost totally addictive — I won't mention the sound because it lets down the rest of the game. I'm surprised Anco didn't ask Bridgette Gertz to do a little ditty for them, as her musical skill on the C16 is amazing.

Pinpoint is a game that should appeal to everyone. It's non-violent yet it grabs you in every way. If you've got a C16, this is one of your top games ever.

Excellent work Anco, please keep it up.

CK.



Price: £5.95
Graphics: ★★★★
Sound: ★★
Playability: ★★★★★
Rating: Mega

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Program

3D Sha e Creator

By Jona han l ng (A e 16 yrs) — C=64 and possibly a printer (803, 801, etc)

Explanation of (lines 120 onwards)

Let us consid r a Per s our hape we want to draw.

The first data item mber of circles which make up shape. So with a Pencil, there wil . One for the top of the Pencil Begins to taper to a Point, a ich is the point (radius 0).

The second data item number of sides the shape has / (tical". has six

for our nc
DATA 3,0

Another data Pairs, there be many Pairs as our first data ite , so in this case there will be 3 Pairs, or 6 on line 120.

Data is organi numb being th and

circles radius. So, for our Pencil-:

130 DATA 20,5 ;start near to the top of the screen, with a thinish Pencil (radius 5)

140 DATA 150,5 ;carry the Pencil down, to centre 150 (near the bottom of the screen), and keep the same thickness (ie 5)

150 DATA 165,0 ;the Pencil tapers to a Point which is 15 Pixels ng (165-150) and us 0 (shape poin

So our complete dat could look like

ATA
ATA
ATA
ATA 165,
el ne gl. ss.

Although small, this program will create three dimensional shapes on screen, which it can tilt and rotate.

What you have to type in, when the program is RUN are-:

1. Angle of tilt — How much it is tilted forward. 90 degrees, and you get a plan view. 0 degrees, and you get a side view. You may also have tilts between these limits (30 deg. is good)
2. Magnification — No. of times larger or smaller. Its best to start with something small to see if your shape will fit on the screen ay 0.8 or 0.9
3. Twist degrees — The shape is drawn in segments, (like a Terry's chocolate orang ch segment like a slice h e. Each segment can be m many arcs, and the arcs be made to twist, as rawn. Try 5; as a tar

```
 10 INPUT"                    1:     V=SIN      IN      ATION
    (TIMES)";X
 20 INPUT "TWIST DEGREES (PER SEGMENT     ):TW=VA  tES      READ",S
 30 DIM X(S+1,N+1),Y(S+1,N+1),RIN(,C      R L-1  TO      R(L):
    R(L)=R(L)+K
 40 C(L=C(L)+K:C(L)=C(L):SI=SIN(      =C(L)+(M 1    K*5):NEXT L
 50 PRINT"PLEASE WAIT"S=N*.136"SECO
 60 A=1:FOR I=TO SD TO 360:SD=SD+      TEP 360/S
 70 X(A,B)=      COS      (( 'B)*D)*I:
 80 A=      N (  060
 90 F=-1      )(  ):NEXTZ:      RAPHIC1,
    1,S
100      ,U)  J+
110 DRA      X      NEX  J.
    J=      :B=B:GOTO
120 D
130 DATA 30,30,30,30,30,5,170,5,170,30,1      ,2
```

Program

Sprite Tricks on the '64

by M. Baig

The first program is a sprite reverser and as its name suggests it reverses sprite patterns i.e. if a sprite showed a figure facing the right by using this routine you could make it face the left and its colour, size and position will not be affected. To make the figure face the right as before just use the routine again.
To use first of all type in program 1 (BASIC AND ASSEMBLY listing provided) then to reverse a sprite a sprite use the following statement.

sys 49152, ADD (Where ADD is the sprite data address from 0-65535)
To use from within a machine code program you must store the low byte of the sprite data address into memory location 253 and the high byte of it into memory location 254. Now just jsr to location 49165

The second program is a sprite inverter. It is slightly similar to the first, but instead it turns a sprite upside down and again its colour, size and position is not affected.
To use, type program 2(BASIC AND ASSEMBLY listing provided) then to invert a sprite use the following statement

sys 4[illegible] Where ADD is the sprite data address from 0-65535)
to use from within a machine code program store the low & high bytes of the sprite data address into memory location [illegible] you do with the [illegible]

```
10 REM SPR  I     VERSER (CBM64)
100 FOR M-        49231:READ A
200 DATA          ,032,138
215 DATA          03   ,0 192
230 DATA          19     ,032
245 D             20     2,096
260 D             0      2,024
270 DA            6      ,096

READY.
```

```
10 REM        I  LRTER   CBM
100 FOR       T  9312:I  DA
200 DAT       53,174,0   1
215 DAT       251,1 0,0      2
230 DAT       52,  7,2   6  1
245 DAT       52,1  8,0
260 DAT       52    8,2

READY.
```

Inside Info

ICPUG is a highly influential organisation and brings many benefits to its members across the whole range of Commodore activity. CCI considered that a regular column from ICPUG would be of interest to many readers. The views expressed by ICPUG may not be those of CCI

Since everybody else is doing it, I thought I would nominate my own Oskar award. And the winner of the ICPUG Oskar is . . . the CCI editorial team. Why? Well the fact that you are reading this column at all bears witness to the sheer skill displayed by the editors in deciphering my hastily scrawled handwriting.

Few things escape my attention here in my first floor basement on the south coast, except maybe for the occasional thermonuclear war and the odd episode of Star Trek, but this week I couldn't help noticing the new ultra slick Amiga demo that's floating around. For those of you who haven't seen it, there this Michelin Man, and he's juggling three balls. Ah, but these are not ordinary balls, they are GLASS balls (remember Labyrinth?) and the really clever thing is the reflections in the glass and the distorted view of the landscape through the glass. Which changes as the balls move around. Plus of course, the man moves around and the shadows move, and the shadows can be seen moving in the glass. Everything is expertly shaded just to add that extra touch of realism. Impressed? I bought the company.

Having recently gone into the realms of publishing as well as writing, I now find myself with the prospect of actually being able to afford to buy one of these much vaunted Amiga machines. The question is, do I buy one of the existing 1000s or hand on a bit for the new 2500? The baby 500 machine is probably out of the question since I am a little suspicious of what Commodore have taken out of it in order to 'cqst reduce' it. Also, past experience suggests that Commodore will price the 2500 nearer the £4000 mark than the £2000 mark. I contacted Bill Donald, since he ought to know about these things, and the opinion he related to me was that unless you are heavy power MD-DOS freak, the 2500 is over the top. True, half the slots can't be used without the 8088 card or the rumoured 80286 card, and anyway several manufacturers offer 100 pin (or 86 pin) expansion chassis, and there's always Sidecar for DOS applications if you really need them. More memory? It's easy enough to plug that onto the Amiga, and I heard a rumour that someone is offering 2Mb in kit form for around £200 (although I haven't been able to verify that). Dare I say it, the MS-DOS option is probably better catered for by buying a certain widget from Mr Sugar — it's certainly cheaper — provided you have enough space on your desk.

Come to think of it, I could do with that laser printer about now. Improve the quality of my output no end, and I could almost dispense with the services of a typesetter. Anyone want to buy an FX-80 and DPS 1101?

Still, maybe the launch of the 2500 will cause the price of the 1000 to drop even further, and lots of people will be able to buy one.

Don't forget, we'd love to hear from you so please write (c/o CCI) or Mailbox ICPUG on CNet, or 705750595 on Prestel.

T.W.A.

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TPUG and the 64

Toronto, Canada was the first city of Commodore back in the calculating machine days. It was the natural habitat of some of the earliest Commodore owners and is still today the home of probably the largest user group in the world, TPUG (Toronto Pet Users Group). Like ICPUG in the UK, TPUG maintains an excellent library of programs for all CBM computers. It is especially strong in 64 material. We thought it would be of interest to many 64 owners around the world to have a list of some of the utilities available from TPUG. They are supplied on disks for a nominal cost of between $5—$12 on disk, also for the list below on cassette.

The following list is of their first disk/cassette, and is reproduced courtesy of TPUG directly from their Commodore 64 library magazine.

If you are interested, please do not contact CCI, but TPUG direct.

Toronto Pet Users Group Inc. 1912A Avenue Rd, Suite 1, Toronto, Ontario, Canada M5M 4A1. Tel: (416) 782-9252.

Utilities

The 3 utility disks listed here contain programs that will make life with your Commodore 64 more enjoyable. Basically, there are programs here to ease the pain of everything that you don't like about the Commodore 64. What more is there to say except, get these disks!

Enjoy!

- TPUG Commodore 64 Librarian

(C)U1 - UTILITIES
(1 disk/tape)

LIST-ME (C)U1.L	This file contains information about the programs on (C)U1. To access it, LOAD and LIST it.
1541 BACKUP.C	Copy the entire contents of one disk to another using your 1541 disk drive. Instructions available from the TPUG office.
64 MEM CHART.C	A chart of the Commodore 64's memory layout.
64 RENUMBER.C	A simple renumbering routine. It doesn't change a GO TO or GOSUB so you'll have to change them manually. To set ranges use REM statements at the beginning of each routine using this format: 10 REM*10*.
BASE.C	Converts numbers from one base to another. For example: FF base 16 is 255 base 10.
C-64 WEDGE.C	Loader programs for "DOS 5.1".
C64 PET SCREEN.C	This routine will reconfigure the video chip so the screen starts at $8000 (like the PET), so PET programs that don't normally work, due to POKEs and/or PEEKs to the screen, should work.
CHECK DISK.C	Checks a disk that you have just formatted to ensure that all the blocks on the disk are good. If bad blocks are found, the program tells the BAM not to use them.
COLOUR BAR 2.C	Displays square of each colour available on the 64 on the screen and then cycles through the background and border colours.
COLOUR COMBO.C	Displays every possible combination of screen and character colours so you can see which ones are readable.
COPY FILE.C	Copy any one file from 1 disk to another using your 1541 disk drive
COPY FILES.C	Copy as much or as little of the contents of one disk to another using your 1541 disk drive.
COPY-ALL.C	Copy programs from one 1541 to another 1541. Needs 2 1541 disk drives--i should be changed to device #9 using "DISK ADD CHNGE.C"
DEC DUMP.C	Performs a decimal dump on any program that you specify from disk
DEMO JOYSTICK.C	Test the mechanism of your joystick to be sure that it is in working order.
DIALER.C	Hold the phone in front of your VDT speaker, choose a number and the 64 will dial the number for you. Note: If your exchange does not support touch tone dialing, this program will not work.
DIR.C	Allows you to look at the directory, send disk commands and examine the disk status.
DISK ADD CHNGE.C	Change the device number of your disk drive. For more detailed information see "HOW TO USE.C".
DISK LOG.C	Displays the file name. If the file is a program it tells the start and finish address. If it is a sequential file it tells you how many bytes long it is. Output can be directed to the screen or a printer.
DISKVIEW 2.C	A very useful program that lets you do things such as trace blocks, unscratch a file, look at the Block Availability Map and much more.
DISPLAY T&S.C	Allows a programmer to examine the contents of a block by specifying the particular track number and sector number which identifies that block.
DISSAMBLER.C	Disassembles any section of the Commodore 64's memory to your printer or your VDT.
DOS 5.1	Loaded by "C-64 WEDGE.C". Don't load it yourself, it won't work.
DUMP .C	Performs a decimal dump on any program you specify from disk.
EMULATOR	Reconfigures your 64 to run most BASIC PET programs. Loaded by "PET EMU BOOT.C".
FORMAT.C	A useful little program that rounds numbers to 3 decimal places and lines up the decimal point.
HOW PART TWO	Gives instructions for: "PERFORM TEST.C", "SEQ FILE.C" and "RANDOM FILE.C".
HOW TO USE.C	Gives instructions for: "C-64 WEDGE.C", "COPY-ALL.C", "DISK ADD CHNGE.C", "PRINTER TEST.C", "VIEW BAM.C", "DISPLAY T&S.C", and "CHECK DISK.C",
INTERMOD.C	Calculates intermodulation products for all combinations of frequencies you input.
J/2D MORSE R/T.C	Transmit morse code using your Commodore 64.
JOY 2.C	Test your joystick to be sure that everything inside is OK.
LISTER.C	LIST a program from your disk to your printer or your VDT.
LISTER 2.C	LIST a program from your disk to your printer or your VDT.
LOCKDISK 64	Protects your programs. Autoruns programs and won't let you break out.
MENU.C	Loads the directory of a disk then lets you pick the program you want by number. After you choose the

→

Evesham Micros

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A HEAP OF HINTS

A few more ideas for your routine collection.

Some less routine routines!

---

1) An aid to loading programmes from disk:

C-64, C-128 & Plus 4

One way to load a programme from disk is to list the directory and then to type LOAD over the beginning and add ",8:" or ",8,1" to the end.

E.g.

```
56     "ZAPPEM"          PPG
9      "SPELL"           SEQ
LOAD   "MONITOR",8,1     PRG          <<<<<<<<<<
```

Well here is a way to add the ",8:" or ",8,1" to the programme name when you save the programme.

To add ",8:" type SAVE "PROG NAME<SP>[D]8<@>",8
To add ",8,1" type SAVE "PPOG NAME<SP>[D]8[D]1",8

<SP> = SHIFT + SPACE
[D] = Commodore key + D
<@> = SHIFT + @

The only restriction is that filenames with ",8:" added can only be 12 characters long and those with ",8,1" added must not exceed 11 in length.

---

2) Speed up your 128 in 64 mode:

C-128

The 128 in 64 mode differs from 'genuine' 64s in a number of ways. For example, memory location 53296 in the 128 makes use of a bit previously unused in the 64. Flipping this bit toggles the 128 from

running at 1Mhz to 2Mhz. This bit is also accessable when the 128 is in 64 mode. When the 128 runs at the higher speed it is unable to access the 40 column screen. The same will apply if you access it in 64 mode. However, number crunching and other routines not requiring a display could benefit from the increase in speed.

```
POKE 53296,3      - To run 64 at 2Mhz and blank screen.
POKE 53296,0      - To restore 64 to normal speed.
```

---

3) A couple of pokes to help protect your programmes:

C-128

To disable the Run/Stop, Run/Stop + Restore combination and built in reset button usethe following pokes:

```
POKE 808,112
POKE 792,98
```

---

4) Save wearing out your power switch with these cold start calls:

C-128, C-64c & Vic20

When you have finished running your latest 6502-thrashing routine and decide to run some other mega exciting programme, you may well feel it is best to turn the computer off before you load it. This is quite a sensible idea as important memory locations are often corrupted and can cause all manner of curious effects when running subsequent programmes. The following system calls will perform a cold start and have much the same effect as turning the computer off but with the added bonus of leaving non system memory intact and saving wear on the power switch.

C-128 use SYS 65341

C-64 use SYS 64738

Vic20 use SYS 64802

If your computer is not listed above but is based on the 6502 Microprocessor, the small routine below will work out the address of your machine's cold start routine.

```
PRINT PEEK(65532)+PEEK(65533)*256
```

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5) Lose that inevitable 'READY' from your printer listings:

C-64 & Vic 20

It's quite likely that any Commodore owner with a printer will be familiar with the command "OPEN 4,4:CMD 4:LIST". It is with this command that a listing of a programme in memory can be obtained. Unfortunately, when the computer finishes sending the listing to the

printer it then goes on to send the 'READY' message which is also printed. One way to clean up your listings is by suppressing all error messages of which 'READY' is one. The routine below will show you how:

```
POKE 768,131:POKE 769,164      :REM  -   Turn error messages off
OPEN 4,4:CMD 4:LIST            :REM  -   Send listing to printer
```

When listing has finished printing type:

```
PRINT#4:CLOSE 4                :REM  -   Purge buffer and close channel
POKE 768,139:POKE 769,227      :REM  -   Restore error messages
```

---

6) A fast and simple way to position the cursor

C-128

The 128 does not have a BASIC command to easily position the cursor. However, there is a way from within BASIC to do just that:

```
BANK 15:SYS 52332,,line,col
```

Where line is the number of character positions from the top of the screen and col is the number of characters from the left.

---

7) Selective directories:

1541 Disk Drive

The 1541 has an undocumented facility that permits the directory routine to select what file types to display. It is invoked as follows:

```
LOAD"$*=x",8
```

Where x is the initial letter of the file type to be displayed.

P = PRG / S = SEQ / P = REL / U = USR

---

8) Rid your diskettes of those nasty single character files:

All CBM Machines

Have you ever found that a bout of finger dyslexia has left you with a curious single character file ("," or "@") on your diskette that seems impossible to scratch? Yes! Then here is the answer you have been waiting for:

```
OPEN 15,8,15,"S0:?":CLOSE 15
```

If you have any ideas or routines which you think would be suitable for inclusion in the HEAP OF HINTS routine file then why not pop them in the post to us?

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Program

Say So by Stephen Chance

On New Years Day 1986, I was persuaded to attend a party being given by a close friend. It was mainly a family affair, with uncles, aunts and a grandparent. After several hours spent pursuing trivia, and having already missed the late-night horror film on TV, I felt sure that the sociable time to leave had arrived. However another game, evidently of some traditional significance to this particular family, was suggested. Despite the lateness of the hour, even Grandma responded enthusiastically. There was no way out: to succumb to the desire of my own bed would cause serious questions to be asked about my manhood. Little did I know that, in deciding to stay, I was sentencing myself to witnessing one of the most savage and violent rituals ever performed in Tooting.

C-64 game
This is a simple game which, should prove to be entertaining. Stephen's text describes a table of the graphic symbols and the key you need to press to obtain them.

What was this pagan rite, this 'game' capable of sustaining an octagenarian until three o'clock in the morning? I determined to write a program simulating what I had observed. What follows is the final result of my investigations.

The program is well REMed and, once running, is reasonably self-explanatory. For me the most interesting part of writing it was defining a large format alphabet. I was all set to start designing large sprite definitions for each letter when I realised just how much effort this would involve. The solution to all this hard work was pleasingly simple: get the program to define a series of strings imitating the character set as stored in ROM, but with a whole character space of each BIT, giving a magnification of ×8. All this takes a little time in BASIC, but a lot less than typing it in by hand.

The questions can easily be adjusted to suit the sense of decency of your own social circles, and their number can be changed, as long as the variable NQ (Number of Questions) and the DIM (Q$) statement in line 11440 are altered accordingly. **S.C.**

```
THE TABLE BELOW SHOWS HOW TO
OBTAIN THE CONTROL CHARACTERS
USED IN THIS PROGRAMME.

  "■" = "CONTROL + 2"
  "■" = "CONTROL + 3"
  "■" = "CONTROL + 6"
  "■" = "CONTROL + 7"
  "■" = "CONTROL + 8"
  "■" = "CONTROL + 9"
  "■" = "CONTROL + 0"
  "■" = "CBM KEY + 3"
  "■" = "SHIFT + CLR/HOME"
  "■" = "CLR/HOME"
  "■" = "CRSR UP"
  "■" = "CRSR DOWN"
  "■" = "CRSR RIGHT"
  "■" = "CRSR LEFT"
```

```
10000 REM*******************************
10010 REM          'SAY SO'
10020 REM  PROGRAMMED BY S. J. CHANCE
10030 REM*******************************
10040 REM
```

```
10050 REM
10060 REM********* SET-UP **************
10070 GOSUB11430:REM DECLARE STRINGS
10080 GOSUB10470:REM INSTRUCTIONS
10090 GOSUB10770:REM CHARACTER SET
10100 PRINTPR$"  PRESS SPACE-BAR TO CONTINUE   ":GOSUB11220:GOSUB11260
10110 GETZ$:IFZ$=""GOTO10110
10120 GOSUB10940:REM TITLE SCREEN
10130 GOSUB10640:REM INPUT PLAYERS
10140 GOSUB10720:REM INPUT WINNING SCORE
10150 GOSUB11020:REM SHUFFLE QUESTIONS
10160 FORZ=1TONP:S(Z)=0:NEXT
10170 REM****** GAME LOOP **************
10180 GOSUB11100 REM READ QUESTION
10190 GOSUB11170 REM READ LETTER
10200 PRINTPR$;"PRESS SPACE-BAR TO SPIN LETTERS"
10210 GETZ$:IFZ$=""GOTO10210
10220 PRINTPR$;"                                "
10230 GOSUB11350 REM COUNTDOWN
10240 FORZ=0TO2500:NEXT
10250 PRINT""TAB(31)"SCORE":FORZ=1TONP
10260 PRINT"    "Z"."N$(Z):PRINTTAB(30)"...."S(Z)
10270 NEXT
10280 PRINT"NUMBER OF WINNER, OR 'R' FOR RE-SPIN";:INPUTZ$
10290 IFZ$="R"THENGOSUB11150:GOSUB11170:GOTO10230
10300 Z=VAL(Z$):IFZ<1 OR Z>NP GOTO10250
10310 S(Z)=S(Z)+1
10320 IFS(Z)=WSGOTO10340:REM END OF GAME
10330 GOTO10170
10340 REM******* END OF GAME ***********
10350 PRINT""TAB(14)"END OF GAME"
10360 FORZ=WS TO 0 STEP-1
10370 FORY=1TONP
10380 IFS(Y)=Z THEN PRINT"   "N$(Y):PRINTTAB(30)"..."S(Y)
10390 NEXT Y
10400 NEXT Z
10410 PRINT"     PRESS SPACE-BAR FOR ANOTHER GAME"
10420 GETZ$:IFZ$=""GOTO10420
10430 PRINT""PR$"      SAME PLAYERS? (Y/N)"
10440 GETZ$:IFZ$<>"Y"ANDZ$<>"N"GOTO10440
10450 IFZ$="Y"GOTO10150
10460 GOTO10130
10470 REM******* INSTRUCTIONS **********
10480 PRINT""THIS IS AN EXCITING AND ADDICTIVE PARTY-"
10490 PRINT"GAME, AND IS VERY EASY TO LEARN..."
10500 PRINT"THE COMPUTER WILL DISPLAY A DESCRIPTION"
10510 PRINT"FOLLOWED BY A RANDOMLY SELECTED LETTER."
10520 PRINT"THE FIRST PERSON TO SHOUT-OUT A WORD"
10530 PRINT"BEGINNING WITH THE LETTER AND SATISFYING"
10540 PRINT"THE DESCRIPTION WINS THAT POINT."
10550 PRINT"E.G. AN INSECT BEGINNING WITH B..."
10560 PRINTTAB(15)"POSSIBLE ANSWER - BEETLE"
10570 PRINT"IF THERE IS DISAGREEMENT AS TO WHO"
10580 PRINT"ANSWERED FIRST, THEN ANOTHER LETTER CAN"
10590 PRINT"BE REQUESTED, OR AN UMPIRE APPOINTED."
10600 PRINT"THE WINNER IS THE FIRST PERSON TO REACH"
10610 PRINT"THE PREVIOUSLY SELECTED SCORE."
```

Program

```
10620 PRINTPR$"PLEASE WAIT - PROGRAM IS WORKING"
10630 RETURN
10640 REM****** INPUT PLAYERS **********
10650 PRINT"■■■INPUT PLAYER'S NAMES. (MAXIMUM OF 20)":NP=0
10660 NP=NP+1:N$(NP)="":PRINTTAB(5)"■PLAYER"NP"■";:INPUTN$(NP)
10670 IFN$(NP)=""GOTO10700
10680 IFNP=20GOTO10710
10690 GOTO10660
10700 NP=NP-1
10710 RETURN
10720 REM***** INPUT WINNING SCORE *****
10730 PRINT"■■■INPUT WINNING SCORE (2-65000)■";:INPUTWS:IFWS<1GOTO10730
10740 RETURN
10750 REM**** DEFINE LETTER STRINGS ****
10760 PRINTCHR$(142):REM UPPER-CASE
10770 POKE56334,PEEK(56334)AND254:REM INTERRUPTS OFF
10780 POKE1,PEEK(1)AND251:REM ROM IN
10790 FORI=0TO207:POKEI +49152,PEEK(I+53248):NEXT:REM COPY CHARACTERS
      TO $C000
10800 POKE1,PEEK(1)OR4:REM ROM OUT
10810 POKE56334,PEEK(56334)OR1:REM INTERRUPTS ON
10820 POKE56295,1:REM WHITE TO CORNER OFCOLOUR-MEMORY
10830 FOR LN=1TO26:REM COPY CHAR.SET INTO STRING FORM
10840 L$(LN)=""
10850 FORZ=0TO7
10860 BYTE=PEEK(49152+(LN*8)+Z)
10870 FOR BIT=7TO0 STEP-1
10880 IF(BYTE AND 2↑BIT)=0THENL$(LN)=L$(LN)+" ":GOTO10900
10890 L$(LN)=L$(LN)+"■ ■"
10900 NEXT BIT
10910 L$(LN)=L$(LN)+"■■■■■■■■"
10920 NEXT Z
10930 POKE2023,LN:NEXTLN:POKE2023, 32:RETURN:REM 2023=BOTTOM R.H.
      CORNER SCREEN
10940 REM******* TITLE SCREEN **********
10950 M$="■■■■■■■■■■■■■■■■"
10960 PRINT"■■■■■■■■■■■■■■"L$(19)M$L$(1)M$L$(25)
10970 PRINT"■■"TAB(12)L$(19)M$L$(15)
10980 PRINTTAB(25)"BY S. CHANCE"
10990 PRINTTAB(9)"■PRESS ANY KEY TO START"
11000 GETZ$:IFZ$=""GOTO11000
11010 RETURN
11020 REM****** SHUFFLE QUESTIONS ******
11030 FORZ=0TONQ
11040 Y=INT(RND(0)*(NQ+1))
11050 IFY+Z>NQTHENY=Y-NQ
11060 QQ$=Q$(Y+Z):Q$(Y+Z)=Q$(Z)
11070 Q$(Z)=QQ$
11080 NEXTZ:Q=0
11090 RETURN
11100 REM******* READ QUESTION *********
11110 QU$=Q$(Q)
11120 GOSUB11150
11130 Q=Q+1:IFQ>NQTHENGOSUB11020
11140 RETURN
11150 PRINT"■■■■":IFLEN(QU$)<38THENPRINTTAB(
      (37-LEN(QU$))/2)QU$"...":RETURN
```

```
11160 PRINTQU$:RETURN
11170 REM******* READ LETTER ***********
11180 LL$="AABBBCCCDDDEEFFGGHIJKKLLMMNNOPPQRRSSTTUVVWYZ"
11190 Z=INT(RND(1)*44)+1:L$=MID$(LL$,Z,1)
11200 L=ASC(L$):L=L-64
11210 RETURN
11220 REM******** SET-UP SID ***********
11230 RESTORE:S=54272:FORZ=STOS+24:POKEZ,0:NEXT
11240 POKES+5,9:POKES+24,15
11250 RETURN
11260 REM******** SOUND GONG ***********
11270 S=54272:READHF:READLF
11280 POKES+1,HF:POKES,LF
11290 HF=HF*2:LF=LF*2:IFLF>255THENLF=LF-255:HF=HF+1
11300 POKES+15,HF:POKES+14,LF
11310 POKES+4,21:RETURN
11320 POKES+4,20
11330 RETURN
11340 DATA16,195,14,239,14,24,12,143,11,48,89,131
11350 REM******* COUNTDOWN *************
11360 GOSUB11220:FORY=0TO6:GOSUB11320:IFY<5THENGOSUB11260
11370 FORX=1TO4:Z=INT(RND(1)*25)+1:PRINT"■"TAB(15)"■■■■■■■■■■■■"L$(Z):NEXT
11380 NEXT
11390 GOSUB11320
11400 PRINT"■"TAB(15)"■■■■■■■■■■■■"L$(L)
11410 GOSUB11260
11420 RETURN
11430 REM******* QUESTIONS *************
11440 DIM Q$(50):PR$="■■■■■■■■■■■■
```

```
11720 Q$(26)="A LANGUAGE"
11730 Q$(27)="A FLOWER"
11740 Q$(28)="A BIRD (DOMESTIC OR WILD)
11750 Q$(29)="A COLOUR"
11760 Q$(30)="AN OUTSTANDING SPORTSMAN"
11770 Q$(31)="A COMPOSER OR MUSICAL CONDUCTOR"
11780 Q$(32)="A RIVER"
11790 Q$(33)="A VIRTUE"
11800 Q$(34)="A COUNTRY"
11810 Q$(35)="A FILM STAR"
11820 Q$(36)="A WORD ENDING IN 'LING'"
11830 Q$(37)="A WELL-KNOWN TRADE OR PROFESSION"
11840 Q$(38)="AN INFAMOUS PARTY GAME"
11850 Q$(39)="A POET OR AUTHOR"
11860 Q$(40)="AN ADVERTISING SLOGAN"
11870 Q$(41)="WHAT YOU DESIRE MOST"
11880 Q$(42)="A FISH"
11890 Q$(43)="A FILM STAR"
11900 Q$(44)="NAME OF A MEMBER OF PARLIAMENT"
            THE LAST LETTER IS TAKEN"
11910 Q$(45)="A WORD WHICH MAKES A SEPARATE WORD WHEN
11920 Q$(45)=Q$(45)+" AWAY E.G.'BANG'"
11930 Q$(46)="WHAT FRIGHTENS YOU"
11940 Q$(47)="A TITLE FOR A VIDEO-NASTY"
11950 Q$(48)="A DANCE-STEP"
11960 Q$(49)="A MUCH-LOVED DESSERT"
11970 Q$(50)="A USE FOR A DEAD HEDGEHOG"
11980 NQ=50:RETURN

READY.
```

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Program

The Perfect Protection

by Dennis Zweytzer

C-64

Is there such a thing as the perfect protection? I have come to the surprising conclusion that there is! My programme, when run, asks for the name of the programme you wish to protect and loads it. Next you enter a password which can be upto 32 characters long. A protected version of your programme is then automatically saved to disk. You must ensure there is sufficient space on the disk for the protected copy before you start. To save confusion '.c' is added to the new version's filename. To run this programme you simply load and run it as usual. However, instead of going straight into your programme, a message will appear on the screen asking you to enter the password. Unless you enter the same code you used when you protected the programme it will not run. 'Hacking' the programme will not reveal the password as it is not contained in the code and I estimate that if you start trying to crack it now, you will finish at just about the same time as the sun expires. The secret behind the protection lies in the use of the World War II Enigma encryption (still an official secret) on which it is based. The time taken to encrypt your programme depends on its length. A programme of 10 blocks will typically take about 10 seconds. Its length is only fractionally increased. Good luck!

```
0 REM ***********************************
1 REM *                                 *
2 REM *    THE PERFECT PROTECTION       *
3 REM *      BY DENNIS ZWEYTZER         *
4 REM *                                 *
5 REM ***********************************
10 L=49152
20 FOR X=0 TO 110:T=0:FOR Y=0 TO 14
30 READ A:IF A <0 OR A >255 THEN 60
40 POKE L,A:L=L+1:T=T+A:NEXT
50 READ A:T=T-(INT(T/256)*256)
60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
70 PRINT1000+(X*10)"OK":NEXT
80 PRINT CHR$(147)" TO START : SYS 49494  "
1000 DATA 001,009,117,018,000,032,000,207,113,061,004,004,006,002,004,  066
1010 DATA 002,078,078,173,002,192,056,233,063,133,045,173,003,192,233,  120
1020 DATA 000,133,046,076,160,192,000,000,000,000,000,000,000,000,000,  095
1030 DATA 000,000,000,004,004,004,004,004,004,004,004,004,004,004,004,  048
1040 DATA 004,004,004,004,004,004,004,004,004,004,004,004,004,004,004,  060
1050 DATA 004,004,004,004,004,173,002,192,105,064,141,002,192,144,003,  014
1060 DATA 238,003,192,076,018,192,069,078,084,069,082,032,080,082,079,  094
1070 DATA 071,082,065,077,032,078,065,077,069,032,080,076,069,065,083,  253
1080 DATA 069,032,141,000,000,000,000,000,165,253,041,007,240,001,096,  021
1090 DATA 162,000,189,000,207,077,016,192,024,109,017,192,157,000,207,  013
1100 DATA 232,224,000,208,238,096,234,234,234,234,173,003,192,141,037,  176
1110 DATA 206,173,002,192,024,105,210,141,036,206,144,003,238,037,206,  131
1120 DATA 169,000,160,193,032,030,171,173,037,206,174,036,206,032,205,  032
1130 DATA 189,169,013,141,119,002,141,120,002,076,032,193,234,096,162,  153
1140 DATA 000,189,118,061,157,000,192,189,118,062,157,000,193,189,118,  207
1150 DATA 063,157,000,194,189,118,064,157,000,195,232,224,000,208,227,  236
1160 DATA 032,152,195,169,196,076,181,195,000,000,000,096,255,000,255,  010
1170 DATA 000,147,031,017,017,048,083,089,083,141,032,032,032,083,089,  156
1180 DATA 083,032,052,057,052,053,054,019,017,017,029,029,029,029,029,  069
1190 DATA 000,000,000,169,002,133,198,169,019,032,210,255,096,234,234,  215
1200 DATA 234,234,234,234,032,170,197,169,232,141,201,195,169,195,141,  218
1210 DATA 202,195,032,120,193,169,004,141,010,192,141,012,192,162,000,  229
1220 DATA 157,048,192,232,224,032,208,248,076,056,198,234,169,203,141,  114
1230 DATA 201,195,076,000,196,234,234,159,069,078,084,069,082,032,067,  240
1240 DATA 079,068,069,032,058,000,000,000,031,048,013,082,085,078,013,  144
```

```
1250 DATA 159,173,001,008,133,251,173,002,008,133,252,160,000,177,251, 089
1260 DATA 133,253,200,177,251,133,254,160,000,177,253,141,244,192,169, 177
1270 DATA 000,145,253,200,177,253,141,185,195,169,000,145,253,200,177, 189
1280 DATA 253,141,190,195,169,000,145,253,165,254,141,183,195,141,188, 053
1290 DATA 195,076,054,194,234,234,234,234,032,080,194,032,040,194,133, 112
1300 DATA 253,173,001,192,133,254,160,000,162,000,177,253,170,189,000, 069
1310 DATA 207,145,253,174,014,192,189,048,192,141,016,192,232,236,012, 195
1320 DATA 192,208,002,162,000,189,048,192,141,017,192,232,236,012,192, 223
1330 DATA 208,002,162,000,142,014,192,032,128,192,076,000,194,255,000, 061
1340 DATA 255,000,230,253,165,253,201,000,208,002,230,254,165,253,205, 114
1350 DATA 002,192,208,015,165,254,205,003,192,208,008,234,234,234,096, 202
1360 DATA 000,255,000,255,076,204,193,234,234,234,234,234,169,002,141, 161
1370 DATA 015,192,169,000,141,014,192,173,000,192,096,141,193,195,166, 087
1380 DATA 253,142,182,195,232,142,187,195,232,142,192,195,096,255,000, 080
1390 DATA 255,000,255,000,255,000,255,162,000,138,157,000,207,232,224, 092
1400 DATA 000,208,247,234,234,234,096,234,234,234,234,032,080,194,032, 223
1410 DATA 040,194,133,253,173,001,192,133,254,160,000,162,000,177,253, 077
1420 DATA 221,000,207,240,005,232,076,118,194,234,138,145,253,174,014, 203
1430 DATA 192,189,048,192,141,016,192,232,236,012,192,208,002,162,000, 222
1440 DATA 189,048,192,141,017,192,232,236,012,192,208,002,162,000,142, 173
1450 DATA 014,192,032,128,192,230,253,165,253,201,000,208,002,230,254, 050
1460 DATA 165,253,205,002,192,208,183,165,254,205,003,192,208,176,032, 139
1470 DATA 128,193,096,255,000,255,000,255,000,255,000,255,000,255,000, 155
1480 DATA 173,000,192,133,251,173,001,192,133,252,162,000,160,000,173, 203
1490 DATA 010,192,141,013,192,206,013,192,169,000,141,014,192,172,014, 125
1500 DATA 192,177,251,170,172,013,192,177,251,172,014,192,145,251,138, 203
1510 DATA 172,013,192,145,251,238,014,192,173,014,192,205,013,192,240, 198
1520 DATA 011,206,013,192,173,013,192,205,014,192,208,212,165,251,024, 023
1530 DATA 109,010,192,133,251,144,002,230,252,165,251,205,008,192,208, 048
1540 DATA 175,165,252,205,009,192,208,168,096,169,255,141,016,192,238, 177
1550 DATA 016,192,174,016,192,189,048,192,141,010,192,032,080,195,173, 050
1560 DATA 016,192,205,012,192,208,233,096,173,000,192,133,251,173,001, 029
1570 DATA 192,133,252,165,251,024,109,010,192,133,251,144,002,230,252, 036
1580 DATA 165,252,205,003,192,240,007,144,235,076,128,195,234,234,165, 171
1590 DATA 251,205,002,192,144,223,076,111,195,234,234,165,251,056,237, 016
1600 DATA 010,192,141,008,192,176,002,198,252,165,252,141,009,192,076, 214
1610 DATA 208,194,223,255,096,169,096,160,193,032,030,171,162,000,032, 229
1620 DATA 207,255,201,013,240,008,157,048,192,232,224,032,208,241,142, 096
1630 DATA 012,192,096,234,141,074,074,169,169,141,075,074,169,046,141, 015
1640 DATA 076,074,032,051,195,032,184,193,076,203,195,169,082,141,119, 030
1650 DATA 002,169,085,141,120,002,169,078,141,121,002,169,013,141,122, 195
1660 DATA 002,169,004,133,198,108,002,160,051,051,162,000,189,112,193, 254
1670 DATA 157,119,002,232,224,008,208,245,169,008,133,198,108,002,160, 181
1680 DATA 051,051,051,051,169,080,160,197,032,030,171,162,000,032,207, 164
1690 DATA 255,201,013,240,008,157,000,206,232,224,032,208,241,142,033, 144
1700 DATA 206,169,114,160,197,032,030,171,032,207,255,201,013,240,006, 241
1710 DATA 141,032,206,076,034,196,173,032,206,056,233,048,170,169,001, 237
1720 DATA 160,255,032,186,255,173,033,206,162,000,160,206,032,189,255, 000
1730 DATA 169,000,162,255,160,255,032,213,255,142,002,192,140,003,192, 124
1740 DATA 162,000,189,000,008,201,158,240,008,232,224,240,208,244,076, 142
1750 DATA 080,192,142,013,192,202,189,000,008,201,058,240,014,032,112, 139
1760 DATA 198,201,000,240,007,174,013,192,232,076,088,196,174,013,192, 204
1770 DATA 232,189,000,008,201,000,208,248,202,160,000,189,000,008,056, 165
1780 DATA 233,048,144,010,201,009,176,006,076,164,196,076,017,017,202, 039
1790 DATA 076,142,196,169,000,133,251,133,252,189,000,008,056,233,048, 094
1800 DATA 144,041,201,010,176,037,133,253,169,000,133,254,165,254,197, 119
1810 DATA 253,240,020,185,160,197,024,101,251,133,251,185,165,197,101, 159
1820 DATA 252,133,252,230,254,076,188,196,200,202,076,170,196,165,251, 025
1830 DATA 141,034,206,165,252,141,035,206,032,170,197,173,034,206,133, 077
```

Program

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1840 DATA 251,173,035,206,133,252,160,000,177,251,141,244,192,200,177, 032
1850 DATA 251,141,185,195,200,177,251,141,190,195,160,000,169,076,145, 172
1860 DATA 251,200,173,002,192,024,105,210,145,251,200,173,003,192,105, 178
1870 DATA 000,145,251,076,038,197,234,234,234,234,234,234,234,165,252, 202
1880 DATA 141,183,195,141,188,195,141,193,195,166,251,142,182,195,232, 180
1890 DATA 142,187,195,224,000,208,003,238,188,195,232,142,192,195,224, 005
1900 DATA 000,208,003,238,193,195,076,064,193,255,069,078,084,069,082, 015
1910 DATA 032,080,082,079,071,082,065,077,032,078,065,077,069,032,080, 233
1920 DATA 076,069,065,083,069,032,141,000,000,000,000,000,096,000,141, 004
1930 DATA 069,078,084,069,082,032,068,069,086,073,067,069,032,078,085, 017
1940 DATA 077,066,069,082,032,040,049,061,084,065,080,069,032,056,061, 155
1950 DATA 068,073,083,075,041,032,000,000,000,000,096,255,000,255,000, 210
1960 DATA 001,010,100,232,016,000,000,000,003,039,032,152,195,032,096, 140
1970 DATA 194,174,012,192,142,036,206,174,036,206,189,048,192,141,010, 160
1980 DATA 192,032,080,195,206,036,206,173,036,206,201,255,208,234,096, 052
1990 DATA 088,167,088,173,003,192,133,252,173,002,192,133,251,230,251, 024
2000 DATA 165,251,201,000,208,002,230,252,169,000,133,253,169,192,133, 054
2010 DATA 254,160,000,177,253,145,251,200,192,000,208,247,230,252,230, 239
2020 DATA 254,165,254,201,196,208,235,174,033,206,169,046,157,000,206, 200
2030 DATA 232,169,067,157,000,206,232,138,162,000,160,206,032,189,255, 157
2040 DATA 173,032,206,056,233,048,170,169,001,160,000,032,186,255,174, 103
2050 DATA 002,192,172,003,192,200,200,200,200,169,043,032,216,255,076, 104
2060 DATA 226,252,174,003,192,142,213,192,232,142,219,192,232,142,225, 218
2070 DATA 192,232,142,231,192,172,002,192,200,140,212,192,140,218,192, 089
2080 DATA 140,224,192,140,230,192,192,000,208,012,238,213,192,238,219, 070
2090 DATA 192,238,225,192,238,231,192,076,208,197,255,000,255,202,202, 087
2100 DATA 202,202,189,000,008,096,000,000,000,000,000,000,000,000,000, 185

READY.
```


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Program

COMMANDER

BY R. MARK DENBY (13)

Commander is a utility to enable you to add extra commands to your 64's BASIC. This it does by allowing you to give a machine code routine a name by which you can access it from BASIC. One command has already been included (ERR). Type in and save Commander. To run type SYS 49152 and RETURN. Then enter the command ERR. If all is well the contents of the disk error cha-nnel should be displayed. So what do you need to do to add a command of your own to BASIC?

Load in a machine code routine suitable for use as a BASIC command. Commander uses memory locations C000 to C0FF and CE00 to CFFF. The area C100 to CDFF is available for your commands as is the remainder of free memory. An example of a suitable programme is DIR. A BASIC loader for which is also listed here. I will use DIR for the purpose of this example.

When loaded in DIR occupies memory C100 to C278. Its entry address is C260 (49760). At CE00 is the start of a table containing the names and entry points of all the commands added to BASIC. it looks like this:

CE00 01 45 52 52 00 00 00 00 .ERR....
CE08 00 00 AC C0 00 00 00 00 ....

Each command occupies 12 bytes. The first byte is always 01. The next 9 bytes comprise the command name ending with either 00 or FF. An 00 after a command means that the command is complete in itself and will not be followed by parameters. An FF is used where a command requires additional information. I.e. DRAW 1,10,10,100,100. The remaining 2 bytes contain the entry address. All that need be done to add DIR would therefore be to add it to the table.

CE00 01 54 52 52 00 00 00 00 .ERR....
CE08 00 00 AC C0 **01 44 49 52** .....DIR
CE10 **00 00 00 00 00 00 60 c2** ....

In order to keep track of how many commands have been added Commander uses a pointer. This points to the first free byte after the last entry in the table. and is stored at CFFD & CFFE.

CFF8 00 00 00 00 00 0C CE 00 ....

As each entry is 12 bytes long it follows that we need to add 12 (0C) to this pointer for each new command we add. In the case of DIR the new pointer value would become 18 CE.

To simplify the adding of commands and to eliminate having to remember what and where to add etc a BASIC programme programme has been included which will do all of the above bar loading the MC routine in. It is menu driven and can VIEW, ADD or CHANGE commands.

When choosing names for your new commands be sure not to include BASIC commands within them. IE MONITOR contains ON and BORDER includes OR. Alternatives could be MO or BDR etc.

```
 1 REM ************************************************************
 2 REM *                                                          *
 3 REM *                  COMMANDER BY R MARK DENBY               *
 4 REM *                                                          *
 5 REM ************************************************************
 10 L=49152
 20 FOR X=0 TO 16:T=0:FOR Y=0 TO 14
 30 READ A:IF A <0 OR A >255 THEN 60
 40 POKE L,A:L=L+1:T=T+A:NEXT
 50 READ A:T=T-(INT(T/256)*256)
 60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
 70 PRINT1000+(X*10)"OK":NEXT
 80 POKE 53245,12:POKE 53246,206:C=598: FOR E=52736 TO 52747
 90 READ A:Z=Z+A:POKE E,A:NEXT:IF Z<>C THEN A=C:GOTO 60
1000 DATA 162,000,189,017,192,149,130,232,224,008,208,246,169,240,133, 251
1010 DATA 126,096,240,239,032,036,192,032,025,192,201,058,176,006,056, 171
1020 DATA 233,048,056,233,208,096,008,072,138,072,152,072,169,000,133, 154
1030 DATA 175,169,206,133,176,162,000,161,175,168,161,122,209,175,240, 128
1040 DATA 107,169,001,129,175,161,122,160,001,209,175,240,095,169,012, 133
1050 DATA 024,101,175,144,002,230,176,133,175,205,253,207,208,217,173, 119
1060 DATA 254,207,197,176,208,210,104,168,104,170,104,040,096,169,001, 160
1070 DATA 097,175,129,175,168,177,175,201,000,240,027,201,255,208,209, 133
1080 DATA 169,001,129,175,160,010,177,175,141,138,192,200,177,175,141, 112
1090 DATA 139,192,032,000,096,076,228,167,160,001,177,122,201,000,240, 039
1100 DATA 225,201,058,240,221,076,096,192,024,101,123,133,123,144,002, 167
1110 DATA 230,122,096,024,076,103,192,169,000,170,168,032,189,255,169, 203
1120 DATA 015,162,008,168,032,186,255,032,192,255,162,015,032,198,255, 175
1130 DATA 169,000,133,176,032,207,255,201,044,208,002,230,176,032,210, 027
1140 DATA 255,165,176,201,003,208,238,032,207,255,032,210,255,032,207, 172
1150 DATA 255,032,210,255,032,207,255,032,210,255,169,015,032,195,255, 105
1160 DATA 032,204,255,169,000,096,000,000,000,000,000,000,000,000,000, 244
1170 DATA 001,069,082,082,000,000,000,000,000,000,172,192
```

```
 1 REM ****************************************
 2 REM *                                      *
 3 REM *   BASIC DRIVER PROGRAMME BY C.C.I.   *
 4 REM *                                      *
 5 REM ****************************************
 10 S=53245:T=PEEK(S)+PEEK(S+1)*256:R$=CHR$(147)
 20 FOR X=1 TO 12:P$=P$+CHR$(0):NEXT
 30 PRINT R$:PRINT"            1) VIEW COMMANDS"
 40 PRINT"            2) ADD COMMAND"
 50 PRINT"            3) CHANGE COMMAND"
 60 PRINT"            4) QUIT "
 70 GET A$:IF A$< "1" OR A$> "4" THEN 70
 80 A = VAL(A$): ON A GOTO 90,130,160,300
 90 Z=52736:NU=1:PRINTR$
 100 IF Z>=T THEN PRINT "FINISHED":GOTO 270
 110 PRINT "COMMAND NUMBER"NU:GOSUB 190
 120 Z=Z+12:NU=NU+1:GOTO 100
 130 PRINTR$:GOSUB 250:Z=T:GOSUB 230:Z=Z+12
 140 H=INT(Z/256):L=Z-(H*256)
 150 POKES,L:POKES+1,H:Z=T:GOSUB 190:GOTO 270
 160 PRINTR$:INPUT"ENTER COMMAND NUMBER";OL
 170 Z=52736+((OL-1)*12):IF Z=> T THEN 160
 180 GOSUB 190:GOSUB250:GOSUB 230:GOSUB 190:GOTO 270
 190 PRINT:PRINT"COMMAND NAME IS: ";
 200 FOR X=1 TO 9:PRINT CHR$(PEEK(Z+X));:NEXT:PRINT
 210 C=PEEK(Z+10)+PEEK(Z+11)*256
 220 PRINT "COMMANDS ADDRESS IS"C:PRINT:RETURN
 230 POKE Z,1:FOR X = 1 TO 9:POKE Z+X,ASC(MID$(N$,X,1)):NEXT
 240 H=INT(A/256):L=A-(H*256):POKE(Z+10),L:POKE(Z+11),H:RETURN
 250 INPUT"ENTER COMMAND NAME";N$:N$=N$+P$
 260 INPUT"ENTER ADDRESS";A:RETURN
 270 PRINT:PRINT" PRESS ANY KEY TO CONTINUE"
 280 GET K$:IF K$=""THEN 280
 290 RUN
 300 PRINTR$:END
```

```
 1 REM ************************************************************
 2 REM *                                                          *
 3 REM *                  DIRECTORY BY R MARK DENBY               *
 4 REM *                                                          *
 5 REM *            TO RUN WITHOUT COMMANDER TYPE SYS 49760       *
 6 REM *                                                          *
 7 REM ************************************************************
 10 L=49408
 20 FOR X=0 TO 28:T=0:FOR Y=0 TO 14
 30 READ A:IF A <0 OR A >255 THEN 60
 40 POKE L,A:L=L+1:T=T+A:NEXT
 50 READ A:T=T-(INT(T/256)*256)
 60 IF T<>A THEN PRINT"DATA ERROR IN LINE"1000+(X*10)"CHECKSUM <>"A:STOP
 70 PRINT1000+(X*10)"OK":NEXT
1000 DATA 142,194,003,140,195,003,248,024,101,179,133,179,144,015,024, 188
1010 DATA 169,001,101,178,133,178,144,006,169,001,101,177,133,177,173, 049
1020 DATA 194,003,240,014,024,101,178,133,178,144,007,169,001,024,101, 231
1030 DATA 177,133,177,173,195,003,240,005,024,101,177,133,177,216,096, 235
1040 DATA 169,000,170,149,177,232,224,003,208,249,096,142,192,003,140, 106
1050 DATA 193,003,032,060,193,169,000,170,168,169,001,133,004,185,192, 136
1060 DATA 003,133,175,165,004,036,175,240,031,134,175,132,176,189,121, 097
1070 DATA 194,168,232,189,121,194,141,196,003,232,189,121,194,174,196, 240
1080 DATA 003,032,000,193,165,004,166,175,164,176,232,232,232,010,201, 193
1090 DATA 000,208,204,200,192,002,208,197,096,133,004,041,015,133,176, 017
```

(CONTINUED)

```
1100 DATA 165,004,041,240,074,074,074,074,133,175,162,000,181,175,024,060
1110 DATA 105,048,201,048,240,014,160,000,140,192,003,032,210,255,232,088
1120 DATA 224,002,208,234,096,172,192,003,192,000,240,240,169,000,076,000
1130 DATA 176,193,160,001,140,192,003,165,178,166,179,141,193,003,142,240
1140 DATA 194,003,165,177,032,144,193,173,193,003,032,144,193,173,194,221
1150 DATA 003,032,144,193,172,192,003,192,001,208,005,169,048,032,210,068
1160 DATA 255,096,032,071,193,032,197,193,096,032,103,194,133,155,032,022
1170 DATA 103,194,168,166,155,096,169,001,160,193,162,095,032,189,255,090
1180 DATA 176,062,169,001,162,008,160,000,032,186,255,032,192,255,176,074
1190 DATA 048,162,001,032,198,255,032,249,193,032,249,193,176,035,192,255
1200 DATA 000,240,031,032,249,193,176,026,032,087,194,032,103,194,176,229
1210 DATA 018,201,000,240,006,032,210,255,076,055,194,169,013,032,210,175
1220 DATA 255,076,038,194,169,001,032,195,255,032,204,255,096,032,242,028
1230 DATA 193,169,032,032,210,255,096,169,000,024,032,005,194,096,032,003
1240 DATA 207,255,133,176,165,144,208,003,165,176,096,169,000,234,234,061
1250 DATA 234,096,000,000,001,000,000,002,000,000,004,000,000,008,000,089
1260 DATA 000,022,000,000,050,000,000,100,000,001,040,000,002,086,000,045
1270 DATA 005,018,000,016,036,000,032,072,000,064,150,000,129,146,001,157
1280 DATA 099,132,003,039,104,000,000,000,000,000,000,000,000,000,000,121
```

Grabber

by P. Armitage

Grabber is a simple game many people have probably played at sometime using matchsticks. The objective is to force the computer to take the last square. Instructions are included in the game.

The game can be frustrating as the computer is very good.

```
10 REM************************************
20 REM****          GRABBER           ****
30 REM************************************
40 POKE 53281,0:POKE 53280,2
50 CS$=CHR$(147):CR$=CHR$(29):CL$=CHR$(157):CD$=CHR$(17):CU$=CHR$(145)
60 RN$=CHR$(18):RF$=CHR$(146):DD$=CD$+CD$:DR$=CR$+CR$
70 FOR X=1 TO 7:LN$=LN$+CHR$(192):NEXT:FOR X=1 TO 5:TD$=TD$+DD$:NEXT
80 H=INT(RND(1)*4)+INT(RND(1)*4)+3
90 PRINT CS$;CHR$(158);CD$;CD$;CR$;CR$"GRABBER"
100 PRINT CHR$(159)DR$;LN$
110 PRINT DD$"  THE OBJECTIVE IS TO FORCE THE"
120 PRINT "  COMPUTER TO GRAB THE LAST SYMBOL.":PRINT
130 PRINT "  THE MAXIMUM NUMBER WHICH MAY BE"
140 PRINT "  GRABBED AT ONE GO IS "RN$;H:PRINT
```

```
150 PRINT RF$;DD$"  PRESS SPACE BAR TO START"
160 GET K$:IF K$<>" "THEN 160
170 REM***** NIMGRAB DISPLAY *****
180 PRINT CS$:NU=23:GOSUB 220
190 PRINT:PRINT
200 PRINT DD$;DR$"HOW MANY DO YOU WANT TO GRAB?"
210 GOTO 290
220 REM***** PRINT DISPLAY ***********
230 PRINT CS$;DR$;CD$"MAXIMUM IS ";H:PRINT CHR$(159);DR$;LN$;LN$;CHR$(5)
240 PRINT:FOR X=1 TO NU:PRINT DR$;CHR$(207)CHR$(208);
250 PRINT CD$;CL$;CL$;CHR$(204)CHR$(186)CU$;
260 IF X=8 OR X=16 THEN PRINT DD$;DD$
270 NEXT X
280 PRINT CHR$(158):RETURN
290 PRINT CD$;DR$
300 GET A$:A=VAL(A$)
310 IF A<1 OR A>H THEN GOTO 300
320 IF A>NU THEN 300
330 IF NU-A<1 THEN 300
340 NU=NU-A
350 IF NU=1 THEN 550
360 GOSUB 430
370 IF NU=1 THEN 550
380 PRINT CHR$(19);TD$;DD$;DD$;DD$
390 PRINT DD$"  OK  I'VE GRABBED";CM:PRINT
400 PRINT"  HOW MANY DO YOU WANT TO GRAB?"
410 FOR X=1 TO 1000:NEXTX
420 GOTO 290
430 REM***** COMPUTER TURN ***********
440 IF NU>H*3+4 THEN CM=H:GOTO 510
450 IF NU=H*3+4 THEN CM=INT(RND(0)*(H/2)+1):GOTO 510
460 IF NU>H*2+3 THEN CM=NU-(H*2+3):GOTO 510
470 IF NU=H*2+3 THEN CM=INT(RND(0)*H+1):GOTO 510
480 IF NU>H+2 THEN CM=NU-(H+2):GOTO 510
490 IF NU=H+2 THEN CM=INT(RND(0)*H+1):GOTO 510
500 IF NU<H+2 THEN CM=NU-1:GOTO 510
510 NU=NU-CM
520 IF NU=1 THEN 590
530 GOSUB 220
540 RETURN
550 GOSUB 220
560 FOR Z=1 TO 1500:NEXT Z
570 PRINT CS$;CHR$(5);RN$;TD$;DD$"      DAMN!! YOU WON"RF$;CHR$(159)
580 GOTO 630
590 GOSUB 220
600 PRINT CHR$(19)TD$;DD$;DD$;DD$"       I'VE TAKEN";CM
610 FOR Z=1 TO 1500:NEXT Z
620 PRINT CS$;CHR$(5);TD$;CD$"          "RN$"I WON"RF$;CHR$(159)
630 PRINT DD$;DD$;DD$"     DO YOU WISH TO PLAY AGAIN Y/N"
640 GET A$:IF A$=""THEN 640
650 IF A$="Y" THEN 80
660 IF A$="N" THEN END
670 IF A$<>"Y" THEN 640
```

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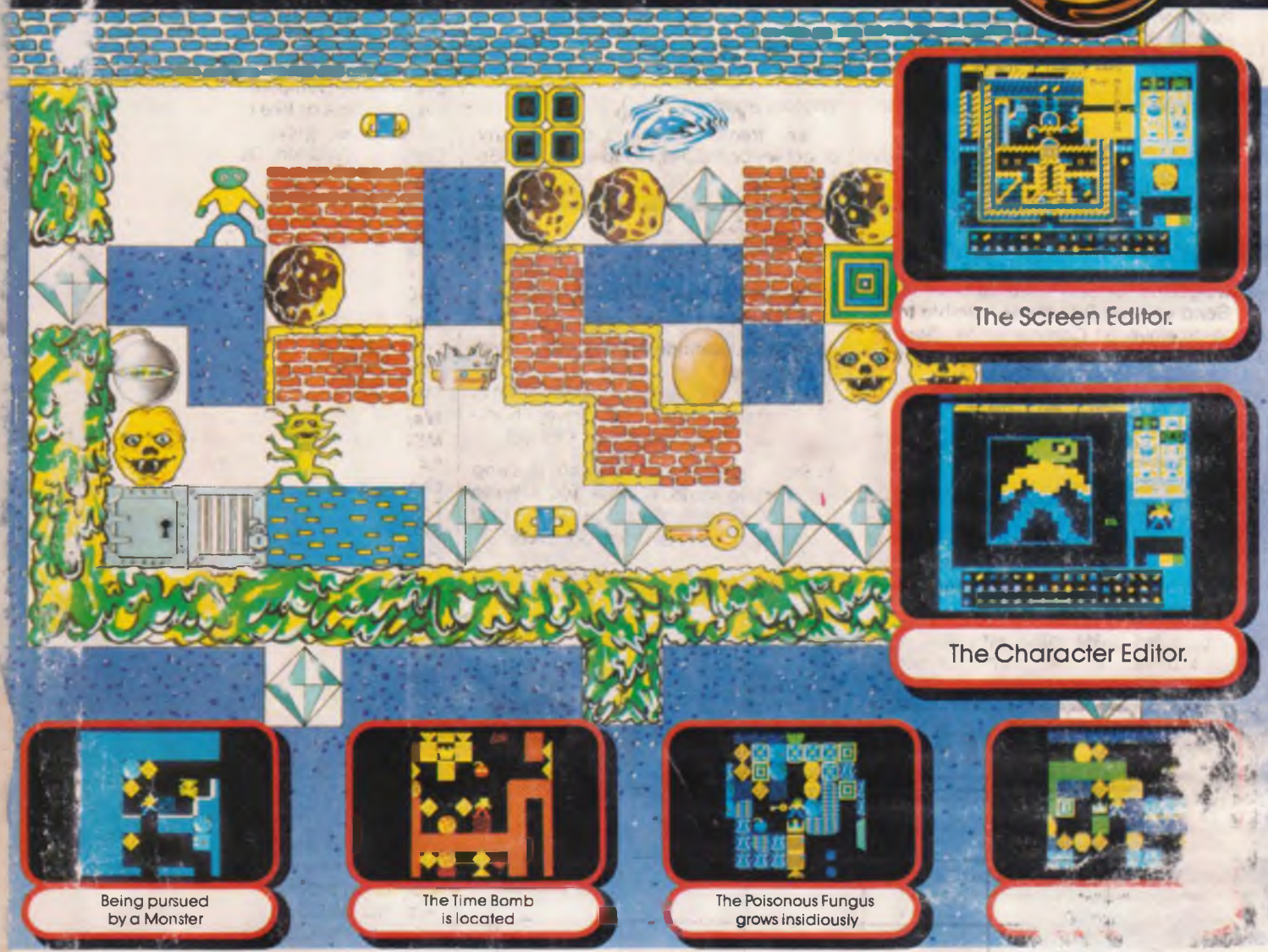

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